THE Soybean Digest

REG. U. S. PAT. OFF.
HUDSON, IOWA

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IN THIS ISSUE

EDITOR'S DESK

Be Prepared for Repeal The president's recall of the 80th Congress for a special session renewed the possibility of passage of H. R. 2245, the Rivers Bill, designed to remove the federal restrictions and taxes on the manufacture and sale of margarine. The members of Congress, however, chose to adjourn after taking hurried action on two bills. With adjournment went any possibility of action on margarine legislation before next January.

Repeal of the present anti-margarine legislation is coming. Consumers of table spreads want it. Producers of cottonseed, soybeans, peanuts, want it. The American sense of fair play demands repeal and will get it.

The American Soybean Association still contends that the producers of soybeans, cottonseed, peanuts, and dairy products in the United States should unite forces on a program of legislation which would remove all federal and state restrictions on the manufacture, sale and consumption of all fat and oil products made from domestically produced materials. It would be to the joint advantage of all groups to do so. They should then embark on a cooperative program to increase the per capita consumption of all table spreads in this country.

The average consumer in the United States is using only one-half as much table spread as he should use, only two-thirds as much as he formerly used, and the trend continues downward. Adequate supplies of margarine through the coming years are a necessity, and the consumer is going to have them tax-free. Producers of fats and oils, including butterfat, should recognize the trend, take steps *now* to assure the domestic market for the American farmer. If they do not do so, repeal of margarine laws is coming anyway, the American farmer will find himself with the domestic market taken over by foreign oils. Recognition of misguided leadership of dairy organizations which refused to cooperate in a joint program will then come too late to preserve the market for either dairy products or fats and oils.

And there is room for a rapidly expanding quantity of soybean oil in the production of margarine when the American housewife is allowed to buy it in the form she wants it and in quantities to fill her needs.

Storage Will Pay Off Again A year ago we were urging in these pages that farmers store more of their 1947-crop soybeans than they had of past crops. The soundness of that advice was proved by soybean prices in the fall and winter months following.

We believe the advice to store a greater proportion of the soybean crop on the farm is just as sound as it was a year ago. Farm storage may be even more important this year. The bumper crops generally forecast by the U. S. Department of Agriculture may bring a serious break in prices at harvest time if arrangements are not made to hold a large part of that bushelage off the market. The individual farmer must share the responsibility for avoiding a market glut.

The storage problem will be vastly greater this year than it was following the comparatively light crops of 1947. U. S. Department of Agriculture estimates (according to Porter Hedge, see page 38) a shortage of storage space of 700 million bushels in the Cornbelt alone, *exclusive of soybeans!* National shortage of storage space for this year's major grain crops is almost 1 billion bushels!

Many soybean producers will have to erect more storage space to take care of this year's soybeans. That is certain.

With the big crops coming up it is time to make room for at least part of your 1948-crop soybeans. Soybean storage paid last year. And it will pay over a period of years.

American Soybean Association convention at Hotel Peabody, Memphis, Tenn., September 13-14-15.

WE'RE LOOKING FOR YOU!

We'll be seeing many of you at Memphis next month. Everything indicates that the American Soybean Association convention being held there at the Hotel Peabody will be one of the largest if not the largest we have had. Reservations have been coming in faster than ever before. And there are more of them. A great deal of interest is being shown on all sides.

We repeat our advice of last month—GET THOSE HOTEL RESERVATIONS IN NOW!—if you have delayed thus far. Make all reservations through Hotel Peabody, Memphis, Tenn.

Details on the meetings are carried elsewhere in this issue.

GROWERS

—Courtesy Weekly Kansas City Star
E. M. Poirot, Missouri soybean grower, in a field of oats on his farm near Golden City.

On Missouri Prairie

E. M. Poirot, Golden City, Mo., soybean grower, was the subject of a recent feature in the *Weekly Kansas City Star.*

The story, by Roderick Turnbull, associate editor of the *Weekly Star,* told of Poirot's 25-year program of improving his 1,800-acre farm which lies on flat prairie in southwest Missouri, and where a thin layer of top soil is underlaid with tough hardpan.

The farm could grow only 5 bushels of soybeans per acre when Poirot took over in 1922, but now produces up to 25 bushels, due to Poirot's program of incorporating organic matter into the soil and of fertilization.

The introduction of lespedeza, which grew where clovers would not, and the arrival of the combine that put straw back directly on the land, were of great help.

Poirot has developed a rotation that includes wheat and sweet clover, with lespedeza and cheat grass growing up the second year after sweet clover seed is harvested. The lespedeza and cheat are pastured in the fall, then plowed under the following spring for soybeans. When the soybeans are off in early fall, the land is disked and sowed to wheat again.

At present, Poirot in cooperation with Dr. William A. Albrecht of Missouri Agricultural College, is experimenting with deep fertilization in an effort to break up the hardpan on the farm.

New Illinois Trophy

A trophy is being offered by the Gulf, Mobile & Ohio Railroad Co. to Illinois soybean growers who enter the Illinois 10-acre Soybean Growing Contest this year, A. F. Stephens, agricultural agent, has announced.

Farmers who enter the contest from counties served by the railroad are eligible for the trophy. The award is being made in cooperation with the University of Illinois and the Illinois Crop Improvement Association.

Growers from the following counties are eligible for the award: Alexander, Calhoun, Cass, Cook, Greene, Grundy, Jackson, Jersey, LaSalle, Livingston, Logan, Macoupin, Madison, Marshall, Mason, McLean, Menard, Monroe, Morgan, Peoria, Pike, St. Clair, Sangamon, Scott, Randolph, Tazewell, Union, Will and Woodford.

Winner will have possession of the trophy for 1 year. Cash awards of $15 and $10 will be made to second and third place winners. The prizes offered by the Gulf, Mobile & Ohio Railroad Co. are in addition to the regular awards to the winners of the Illinois yield contest.

Entries for the Illinois contest closed July 1.

AS THE PRESS SEES IT

Hit Tax on Margarine

A public opinion poll recently conducted from coast to coast showed that 71 women out of each 100 interviewed consider the 10-cent tax on margarine unfair. The vote among the men was 79 out of 100.

The anti-tax vote in the South was only a bit bigger than the vote in sections that do not produce the crops from which the oils used in margarine are made.

The percentage of those who declared the tax unfair was 77 percent in the South; 75 percent in the Midwest; 74 percent in the East and 73 percent in the West.

As for income levels, "owners and managers" said the tax was unfair at the rate of 77 out of 100; white collar workers, 78 percent; skilled workers, 74 percent and unskilled workers 70 percent.

Thus an overwhelming majority of men and women in all walks of life and in every section of the country is opposed to the injustice that has been heaped upon the margarine industry for so many years.

Eventually it will mean justice for margarine not only in the national capital but in state capitals.

The Tennessee Legislature should get in line with public opinion right after it assembles next January. —*Memphis Press-Scimitar.*

LETTERS TO THE EDITOR

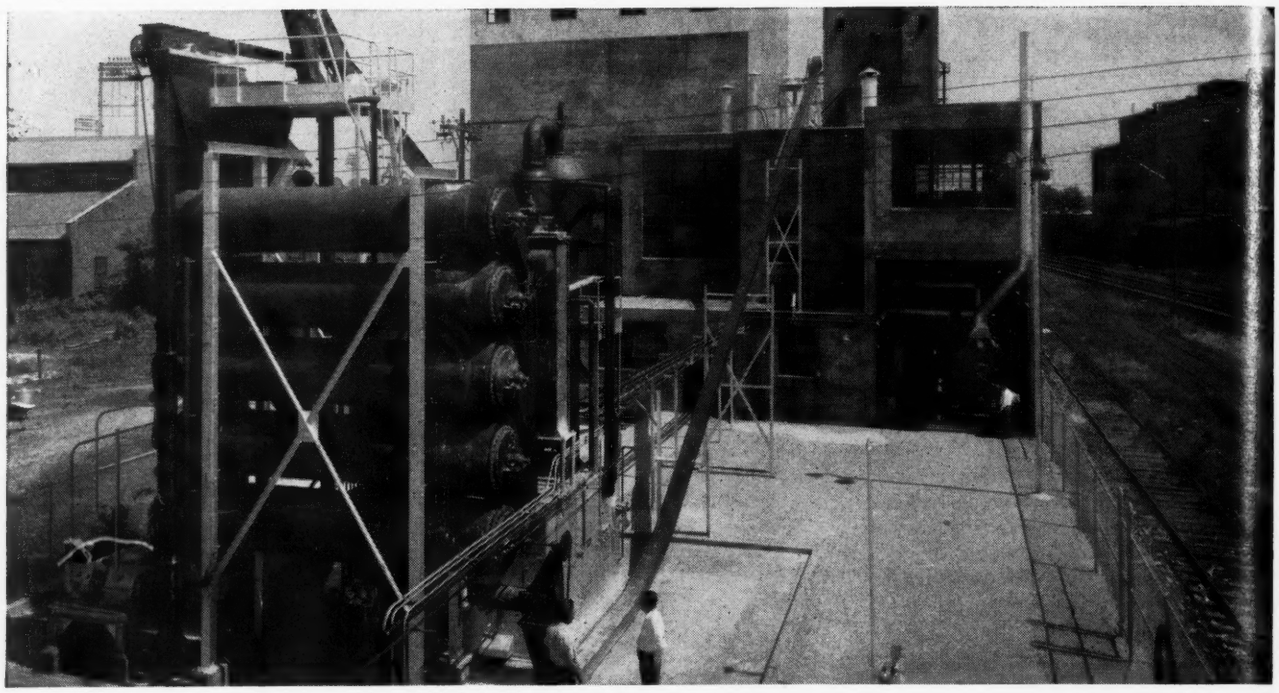
Ohio Prodigies

To the Editor:

Please say hello to Porter Hedge for me.

He is an old friend of mine.

Tell him that the world's best soybeans are grown in Ohio. We cross them with our buckeyes and get beans about the size of chestnuts. Soybeans this size are hard to combine so we knock them off the bushes with clubs and let the hogs eat them off the ground.—*Chas. A. Crawford, Liberty Center, Ohio.*

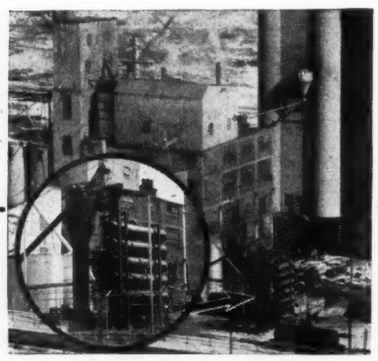


And at Louisville Soy Products Co.

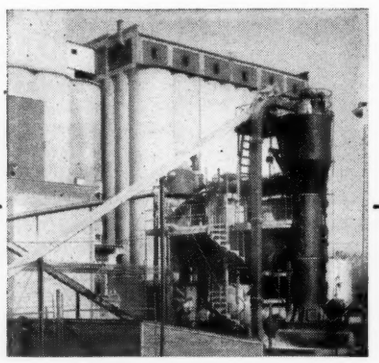
Another ANDERSON SOLVENT EXTRACTION UNIT

Next in our series of installations is the Anderson Solvent Extraction Unit now in operation at Louisville Soy Products Co., at Louisville, Ky. Notice in the above view, as in all the others, that the Unit is self-supporting, needing no building. This eliminates the explosion hazard since any vapors are not confined. Without a building, investment is much lower, insurance costs are down and extraction can be closer to preparation without penalty. Prefabrication greatly reduces cost of the Unit, and installation costs, while integrated design lowers power losses. Ask us for more information about the Anderson Solvent Extraction Unit.

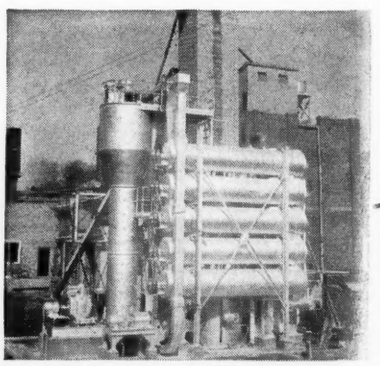
THE V. D. ANDERSON COMPANY
1976 WEST 96th STREET • CLEVELAND 2, OHIO



Anderson Solvent Extraction Unit operating at Dannen Mills, Inc., plant, St. Joseph, Missouri.



A view of Soyex Corporation, Columbus, Ohio installation of an Anderson Solvent Extraction Unit



Muscatine Processing Corporation's installation of an Anderson Solvent Extraction Unit

ANDERSON EXPELLERS & SOLVENT EXTRACTION EQUIPMENT

28th Annual CONVENTION

AMERICAN SOYBEAN ASSOCIATION

Hotel Peabody, Memphis, Tenn., September 13-14-15

ERSEL WALLEY

FROM YOUR PRESIDENT

Our Annual Meeting—1948:

Never before has our annual meeting been so significant either as to time or place.

The present world situation presents the American soybean grower with a challenge equal to that of Pearl Harbor. The program on September 13, 14 and 15 is rich in opportunity for us to better prepare ourselves to meet that challenge.

Not only growers but every segment of the soybean industry will be represented—present to contribute and learn. You cannot afford to miss this outstanding event in the history of our organization.

In Memphis we shall be among friends—those who have so much in common with us. Extension of this common acquaintance and interest will in itself justify the trip.

Mark your calendar and road map: "Memphis, September 13, 14 and 15, 1948!"

ERSEL WALLEY, President
American Soybean Association.

Bremen, Germany

July 20, 1948

PROGRAM

(Tentative and Subject to Change)

SUNDAY, SEPTEMBER 12

2:30 P.M. Board of Directors Meeting.

3:00 P.M. Committee Meetings.

6:00 P.M. Advance Registration, Lobby Floor.

8:00 P.M. Informal Smoker, Open to All Delegates.

MONDAY, SEPTEMBER 13

8:00 A.M. Registration, Lobby Floor.

9:00 A.M. Exhibit Booths Open for Inspection.

9:30 A.M. Ball Room, Hotel Peabody, Ersel Walley President American Soybean Association, Presiding.
"Greetings from Tennessee."
"Greetings from Memphis," James J. Pleasants, Mayor of Memphis.
"The Memphis Merchants Exchange," A. A. Williams, President.
"Let's Make the Rafters Ring," Led by Joe Seabold, McMillen Feed Mills, Napoleon, Ohio.
"Soybeans in the European Recovery Program," Ersel Walley.
"South Goes East," Heartsill Banks, Recently Returned from Korea.

1:30 P.M. Reconvene. W. G. Weigle, Vice President American Soybean Ass'n, Presiding.
"Synthetic Detergents and Their Effect on Vegetable Oil Usage," Foster D. Snell, Consulting Chemical Engineer, New York City.
"New Developments in Industrial Usage of Soybean Oil," J. C. Konen, Archer-Daniels-Midland Co., Minneapolis, Minn.
"Soybean Research at the Northern Regional Research Laboratory," Dr. R. T. Milner, Head Analytical and Physical Chemical Division.
"Progress in Products," Motion Picture Film Released Jointly by American Soybean Association and National Cotton Council; and "The Soybean Story," Motion Picture Film Released by Allis-Chalmers Manufacturing Co.

TUESDAY, SEPTEMBER 14

9:00 A.M. Exhibits on Display.

9:30 A.M. Annual Business Meeting, Ersel Walley Presiding.

10:30 A.M. Walter W. McLaughlin, Director American Soybean Ass'n, Decatur, Ill., Presiding.
Song Session, Joe Seabold.
"Government Programs Affecting the Soybean Industry," George L. Prichard, Director Fats and Oils Branch, PMA, USDA, Washington, D. C.
"The National Cotton Council of America and Its Relationship to the Soybean Industry," William Rhea Blake, Executive Vice President, Memphis, Tenn.
"Foreign Trade Program of the National Cotton Council," Read P. Dunn, Director Foreign Trade Division, Washington, D. C.

1:30 P.M. Howard L. Roach, Director American Soybean Ass'n, Plainfield, Iowa, Presiding.
"The Arkansas Experiment Station Program and the Clarkedale Station," Dean Lippert Ellis, Head Dept. of Agri., Arkansas Experiment Station, Fayetteville, Ark.
"The Soybean Crop and the Southern Grower," Speaker to Be Named.
"The ECA Program on American Agricultural Commodities," Speaker to Be Named.
"Breeding Soybean Varieties for the Southern States," E. E. Hartwig, U. S. Regional Soybean Laboratory, Stoneville, Miss.

7:00 P.M. Banquet, Ball Room, Hotel Peabody.
Singing, Led by Joe Seabold.
Entertainment.
Presentation of Honorary Life Memberships. Introduction of Guests.
"The Sizzling Issues of 1948," Clayton Rand, the Gulfport Press, Gulfport, Miss.

WEDNESDAY, SEPTEMBER 15

8:00 A.M. Exhibits Open to Inspection.

9:00 A.M. Field Trip to Clarkedale Experiment Station, Clarkedale, Ark., and the Lee Wilson & Co. Enterprises, Wilson, Ark. Transportation by Private Automobile and Chartered Buses Leaving Hotel Peabody at Intervals Until 9:30 A.M.

10:30-11:30 A.M. Clarkedale Experiment Station.

12:30 P.M. Old Fashioned Southern Barbeque at Bassett Park, Wilson, Ark., Lee Wilson & Co., Hosts.

1:30 P.M. Tour of Wilson Plantation.

4:00 P.M. Adjournment. Convention Attendants Invited to Field Day of Cypress Land Farms Near Portageville, Mo., September 16.

CONVENTION SPEAKERS

ASA PRESIDENT WALLEY will return from Europe to go almost direct to the convention floor. His observations gleaned from abroad will be of direct importance to you and your future.

HEARTSILL BANKS, a longtime Association stalwart, comes from the opposite side of the globe—Korea—to tell us what is going on under the shadow of the Russian bear.

RHEA BLAKE, executive vice president of the National Cotton Council of America, will tell you of some of the trials of that organization, of vital bearing on the organizational program of American Soybean Association.

CLAYTON RAND, author and speaker and former newspaperman, is an oldtime favorite on convention programs in the South. Humorous yet thoughtful, he voices a vital brand of Americanism.

JOE SEABOLD, Central Soya Co.'s one-man chorus of Napoleon, Ohio, will retutrn to be convention song leader. He was a favorite at the ASA meetings in Columbus last year.

REID T. MILNER of the Northern Regional Research Laboratory, has appeared on our programs before, is well known to ASA audiences. The annual reports from the Laboratory are always welcomed.

DR. E. E. HARTWIG now heads up the Southern soybean program for the U. S. Regional Research Laboratory, at Stoneville, Miss. He recently was transferred from North Carolina.

THE FIELD DAY

A brace of notables will help to put over the field day at the Clarkedale, Ark., substation. They include John B. Dameron, superintendent; Dr. C. Roy Adair, U. S. Department of Agriculture, Stuttgart, Ark.; J. L. Cartter, U. S. Regional Soybean Laboratory, Urbana; W. J. Morse, Bureau of Plant Industry, Beltsville, Md.; and Hartwig.

You will see 44 varieties of soybeans growing under Delta conditions. They were planted especially for the field day.

There will also be demonstrations of rotary weed and flame cultivators, and chemical defoliation of soybeans.

* * *

A noon picnic barbeque in Bassett Park, Wilson, Ark., will be followed by a 2½-hour tour of Wilson & Co. operations. Included in the tour will be the town of Wilson; the Delta Products Co.; the soybean oil refinery; the dairy; a visit to the Marie farms; soybean, cotton and alfalfa fields; a modern cotton gin and the alfalfa dehydrating plant.

Harold Young, president of the National Cotton Council, and R. E. Short, vice president of the National Farm Bureau Federation have been invited to attend the field trip at Wilson.

Visit With Your Exhibitors

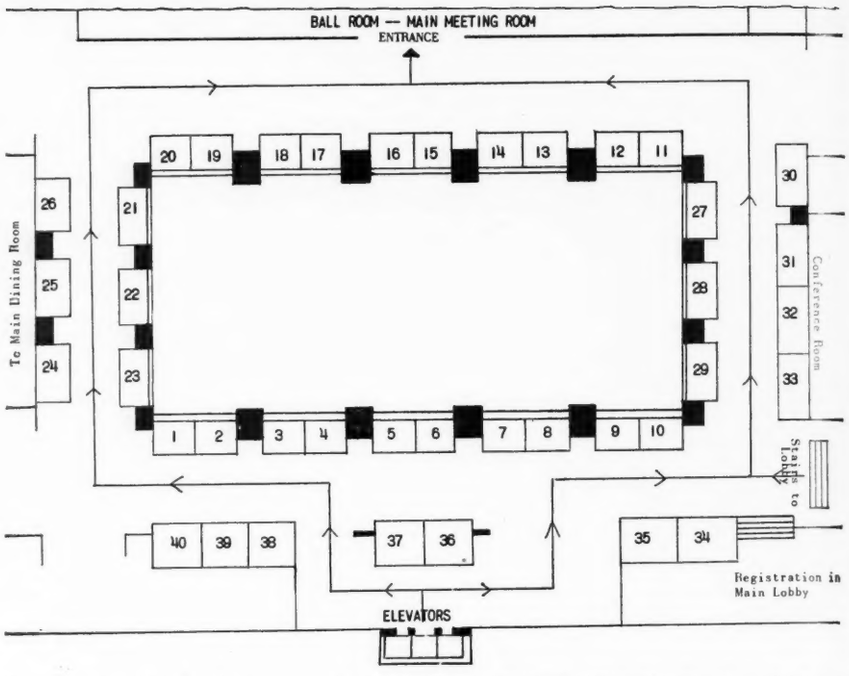


Diagram of exhibit booths on mezzanine floor of Hotel Peabody, Memphis, American Soybean Association convention September 13-14-15.

Firms serving the soybean industry will again be represented by booths at the American Soybean Association convention.

Exhibit booths will be on the mezzanine floor of the Hotel Peabody where all convention sessions will be held. Exhibitors will be glad of an opportunity to meet and visit with you. You will find a little time spent with them and their displays to be profitable.

Names of exhibitors and their booths at the convention follow:

Booth No.

1—Safety Car Heating & Lighting Co., Inc., New Haven, Conn.

2—Hendrick Manufacturing Co., Carbondale, Pa.

3—Urbana Laboratories, Urbana, Ill.

4—Central Soya Co., Inc., Fort Wayne, Ind.

5, 6—Blaw Knox Co., Pittsburgh, Pa.

7—Riechman Crosby Co., Memphis, Tenn.

8—Soybean Digest, Hudson, Iowa

9, 10—Albert Dickinson Co., Chicago, Ill.

11—Hammermills, Inc., St. Louis, Mo.

12—Glastic Corp., No. Kansas City, Mo.

13, 14—Nitragin Co., Milwaukee, Wis.

15—Wm. H. Banks Warehouses, Inc., Chicago, Ill.

16—National Association of Margarine Manufacturers, Washington, D. C.

17—National Soybean Crop Improvement Council, Chicago, Ill.

18—Skelly Oil Co., Kansas City, Mo.

19—Madison Foods, Madison College, Tenn.

20—Industrial Supplies, Inc., Memphis, Tenn.

21—V. D. Anderson Co., Cleveland, Ohio

22—Agricultural Laboratories, Inc., Columbus, Ohio

23—Tipps Engineering & Supply Co., Inc., Memphis, Tenn.

24—Woodson Tenent Laboratories, Memphis, Tenn.

25—Sparkler Manufacturing Co., Mundelein, Ill.

26—J. C. Kintz Co., Cedar Rapids, Iowa

27—Burrows Equipment Co., Evanston, Ill.

28—Illinois Central Railroad, Chicago, Ill.

29—Butler Manufacturing Co., Kansas City, Mo.

30—Seedburo Equipment Co., Chicago, Ill.

31—Prater Pulverizer Co., Chicago, Ill.

32—Phillips Petroleum Co., Bartlesville, Okla.

33—Jacob Hartz Seed Co., Stuttgart, Ark.

34, 35—Allis Chalmers Manufacturing Co., Milwaukee, Wis.

36, 37—A. T. Ferrell Co., Saginaw, Mich.

38—American Mineral Spirits Co., Chicago, Ill.

39—Huntington Laboratories, Inc., Huntington, Ind.

40—Chase Bag Co., Chicago, Ill.

Picture at left shows Koreans in the row; row at left planted May 3, at right May 20. At right you see individual plants. Leaves have been plucked from two plants to show blooms.

THE RICKARD KOREANS

• *Cypress Land Farms in southeast Missouri will hold a field day September 16 showing the Rickard Korean soybeans growing on the farms, with John E. Brown, manager, in charge. Members of the American Soybean Association returning home from the convention in Memphis are cordially invited to attend. Cypress Land Farms may be reached on JY road north of Portageville, Mo. Turn off the road between Portageville and New Madrid at the town of Conran. You are also invited to stop and see the Koreans on Valley Farms near Carrollton, Ill.*

By HENRY I. COHN

Manager Valley Farms, Carrollton, Ill.

The exact date of the first importation of the "Korean" soybean is not known to the writer but it was probably sometime during 1941 that the Dominion Experiment Station at Harrow, Ontario received from Asia about 1 pound of seed of each of many varieties of soybeans for experimental purposes.

It is impossible to say for how many years these beans had been grown in their respective areas in Asia but possibly some of these varieties had been established for hundreds of years. Certainly they were not new selections, so we shall not treat the "Korean" as a new bean in any sense but as a tried and proven member of a family which for centuries has furnished food to the Asiatics.

The Dominion Experiment Station did little or nothing with the sample of one unusually large soybean, probably thinking because of its large size that it would require an unusually long maturity period. W. G. Baldwin of Harrow, Ontario, a Canadian farmer, not connected with the Experiment Station, obtained the sample of this large soybean, planted the seed in 1942, and found not only a good yielding soybean but one which matured a week ahead of Richlands.

E. T. Rickard of Champaign, Ill., who owned farms in Ontario as well as in Illinois, saw the soybean growing in Canada and brought 1 bushel to Illinois in 1942 and 8 bushels in 1943. Three pecks of the original bushel were given by Rickard to H. I. Green, a close friend, on the condition that they would be planted where Rickard could watch them closely, Rickard's nearest farm being at Alexander, Ill. P. A. Stone of Pleasant Plains was given some seed which was planted in 1944. Mr. Rickard first planted these beans on his farm at Alexander, Ill. in 1944.

In 1946 the writer received a letter from E. T. Rickard outlining the progress made up to that time and expressing regret that the University of Illinois would not experiment with the variety although early maturity, high yields, high oil content and general characteristics recommended the bean as having unusually fine possibilities. Mr. Rickard stated that he thought that the variety possessed such characteristics as recommended it for immediate expansion and that he hoped that Valley Farms would sponsor such development.

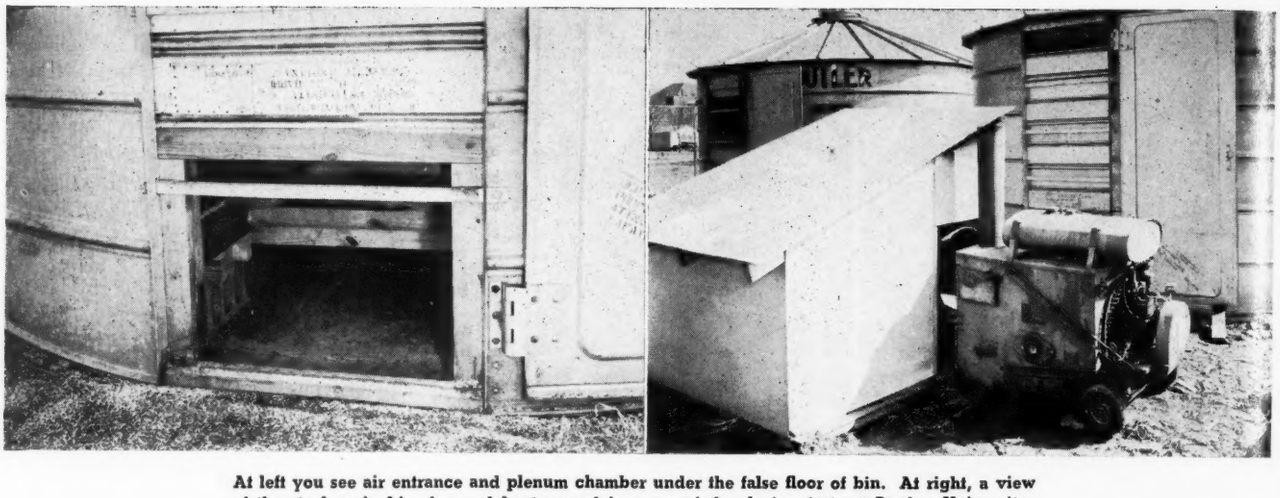
E. T. Rickard died of a heart stroke in August 1947. Mrs. Rickard gave to the writer all seed selections as well as descriptive data in the possession of Mr. Rickard at the time of his death. It is from this material that this article has been assembled. On Valley farms in the Illinois River bottom and on its associate farm, Cypress Land Farms in southeast Missouri, there were planted about 1,000 acres of those soybeans in 1948.

The name Rickard Korean has been given to the bean in honor of the memory of the man who introduced the bean to the United States. Mr. Rickard did not claim any distinction in having originated the bean. The Rickard Korean is simply a new name for an old and tried bean that was sent to Canada after apparently having been a favorite in Korea.

There are many outstanding qualities possessed by this variety. Foremost is the oil content on which many analyses have run as high as 21 percent. It is particularly interesting to note that the oil content of this bean grown in Canada in 1944 was 19 percent. The same bean planted in Illinois and analyzed on September 20, 1944 by the United States Regional Soybean Laboratory showed a moisture-free oil content of 20.7 percent. Thus it would appear that the oil con-

(Continued on page 28)

The late E. T. Rickard brought the Korean soybean to Illinois in 1942.



At left you see air entrance and plenum chamber under the false floor of bin. At right, a view of the steel grain bin, fan and heater used in some of the drying tests at Purdue University.

DRYING AND STORING SOYBEANS

on the Farm

By H. J. BARRE

Presented before the Soybean Processors Meeting, Purdue University, Lafayette, Indiana, March 31, 1948

THE STORAGE of soybeans on the farm is considered to be a problem in most seasons when they are harvested with a moisture content in excess of that considered safe for storage in tight bins. In this respect they are not so different from other grains except that they should probably be from 1 to 2 percent drier than shelled corn for several months storage without any appreciable deterioration.

Soybeans, being a crop maturing in the fall, are often harvested with excess moisture and present a storage problem. It is the purpose of this presentation to point out some of the problems encountered in storage and to indicate the possibilities of forced air drying of soybeans with and without heated air to permit them to be stored without danger of spoilage.

Conditions Necessary

The principal factor which insures safe storage of soybeans is their moisture content. If they are placed in storage with a moisture of 11 percent or less, they can be kept for a period of 1 year or even longer without appreciable deterioration or danger of spoilage. They may be stored during the winter with a moisture content of 12 to 13 percent, providing they are not stored in lots of 1,000 bushels or more. The lower the temperature at which the beans are stored the less the danger of spoilage.

It is also desirable to have the soybeans reasonably free of foreign material. However, this is not important for safe storage providing the moisture content of the grain is sufficiently low. In the case of any ventilation to be performed on the stored grain either by natural or mechanical means, foreign material will not permit uniform air flow through the grain. The presence and accumulations of broken kernels, leaves and dirt also interfere with effective fumigation in case of insect infestations; but this does not seem to be a serious problem in the case of soybeans.

An accumulation of moisture in the 8 to 10 inch top layer of grain at the center of the bin has been repeatedly observed in the fall when the grain cools. Although this condition may cause the top layer to spoil, the amount of grain affected is only a small amount being only a few bushels. This migration of moisture is caused by the circulation of air within the grain. As the layer of grain next to the wall cools it becomes heavier and settles slowly to the bottom of the bin, from where it moves toward the center and up through the warmer grain in the center of the bin. As the warmed air comes in contact with the cool top layer of grain some of the moisture is taken up by the latter. Although this process is slow, it occurs over a period of several months with the result that the amount of moisture absorbed is excessive. This condition is not peculiar to soybeans but occurs in other grains as well. The higher the moisture content of the grain and the deeper the bin the more serious this condition.

Problems of Storing

It is apparent from what has been said above regarding the conditions for safe storage, that the problem of storing soybeans on the farm is two-fold.

1. A conditioning or drying process, that is, the soybeans if not sufficiently dry, must be dried to a moisture content at which they can be stored safely.

2. After it is dry enough, to keep it that way in all parts of the bin. The latter is reasonably simple if the grain bin provides the necessary protection from the weather.

Moisture at Harvest

As already indicated above, soybeans are likely to be harvested with too much moisture due to the lack of good drying weather in the fall, and to their uneven ripening. In these respects, soybeans are somewhat like corn and grain sorghums both of which mature in the fall and frequently contain much excess moisture when harvested.

Even under these circumstances, soybeans often are dry enough for storage during good fall weather, especially during the midpart on good drying days. Moisture tests on samples taken from ripened beans in the field showed that they contained a moisture content of 15 percent early in the morning and less than 10 percent by 1 o'clock in the afternoon of the same day. But under these conditions, shattering losses in harvesting are likely to be greater. These losses could be reduced to a minimum by harvesting earlier in the ripening period or by harvesting under somewhat less dry conditions but not without a higher moisture in the beans. This, no doubt, would be done if storage of the higher moisture beans would not present such a problem.

Methods of Drying

In the farm storage of soybeans and other grains, different methods have been em-

• *The day has come when you should be prepared not only to store soybeans on the farm but to dry them down to the proper moisture content. Author is head of the department of agricultural engineering at Purdue University.*

ployed for removing the excess moisture. These include (1) natural ventilation, (2) forced ventilation, (3) artificial drying, and (4) moving or turning of the grain.

1—*Natural ventilation.* Ventilated bins either with or without ventilators, have been used rather extensively by farmers. Drying is very slow in most systems and cannot be relied upon for removing more than 1 to 1½ percent of moisture in the case of wheat. The effectiveness during the fall would even be less than in the summer and cannot be relied upon for use with soybeans.

2—*Forced ventilation with natural air.* Whenever the air conditions are favorable for drying, forcing air through the grain with a fan or blower is very helpful in drying the grain and keeping it cool. But the rate of drying is very slow especially in cool weather and cannot be depended on. During the winter or cold weather, this method can be used to keep the grain cool although no appreciable drying is accomplished. Unless the air is heated the moisture content cannot be reduced below 14 percent during the months of April to November.

3—*Moving or turning grain.* If soybeans are beginning to heat or some drying is to be accomplished, some good can be done by moving them from one bin to another. Very little drying is accomplished by this method. It does, however, mix the dry with the damper grain, or the heated with the cooler grain.

4—*Forced ventilation with heat.* One of the most recent and promising developments is the use of forced heated air for drying the stored grain such as shelled corn and soybeans in the bin. A fan and a heater or a combination fan and heater is used to force the air through 6 to 8 feet of stored grain. The bin is provided with a ventilated or false floor placed about 12 to 18 inches above the regular floor to obtain a uniform rate of air flow through the grain in all parts of the bin.

The results of this method of drying through both laboratory and field experiments are very promising. Shelled corn with a moisture content as high as 27 percent placed in layers from 6 to 8 feet deep have been dried successfully in less than a week. A rate of air flow of about 25 cubic feet per minute for every square foot of floor area is sufficient to dry the wet grain, providing the air is heated 10 to 20° F. to give it a relative humidity of 30 to 40 percent. The static pressure required to produce this rate of air flow through about 7 feet of shelled corn is about 2½ inches of water. The cost for fuel and power is 3 to 7 cents per bushel, the exact amount depending upon the cost and kind of fuel, the temperature and humidity of the air, the efficiency of the heater and the cost for the power.

For the drying of 1000 bushels of shelled corn at a depth of 7 feet, a fan which delivers 4000 ft. per minute and a heater which will burn up to ½ gallon of fuel oil, kerosene or gasoline per hour is required. A 3 H.P. electric motor is adequate for driving the fan providing it is one of a proper type and run at the correct speed.

Although no actual field experiments have been conducted with the drying of soybeans, however, some laboratory tests have been made to show that results similar to those with shelled corn can be expected. In fact, the drying of soybeans is less difficult because the moisture content would rarely be above 20 percent and the resistance to air flow is less than that for shelled corn. Therefore, the rate of air flow can be reduced, and the amount of fuel used would be less, all of which means a lower cost per bushel dried.

In conclusion, it seems to us that provision for drying should be made in the future handling of grains on most farms because of the advantages it offers. Through such a method, the farmer will have for the first time a positive way of handling almost every storage problem involving high moisture grain. The opportunities for harvesting such a grain as soybeans with less loss are materially increased, and the storage losses reduced to a minimum. These advantages we feel, more than outweigh the cost of the equipment and the fuel and power.

Drying or conditioning on the farm is needed to supplement the present facilities at elevators and processing plants to conserve all the soybeans we grow and to reduce the frequent serious storage losses.

—s b d—

SOYBEAN CONGRESS

A soybean congress was held in Weissenburg, in the state of Bavaria, Germany, August 28-31, 1947, according to a report reaching the *Soybean Digest.*

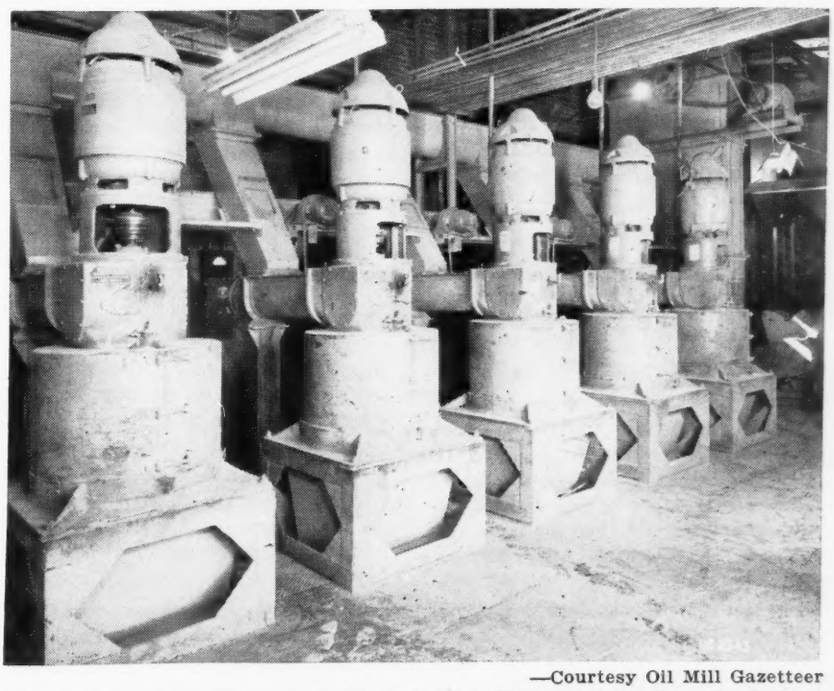
Most emphasis was placed on the soybean as a source of food.

It was stated that German agriculture must undergo a radical change if it is to meet the needs of the times. Since soybean seed now in German hands must be used for planting purposes, Germany must depend on the United States for seed for commercial use. Should Germany succeed in raising a good quantity of soybeans to be used commercially it would mean a radical change in German agriculture, it was pointed out at the Congress.

All phases of raising soybeans and their usage were thoroughly discussed at the meeting. The utter lack of knowledge in Germany as to the great possibilities of the soybean was evident; and the congress offered a fine opportunity to show people what can be done with soybeans.

Major Clifford W. Collier, the governor of Weissenburg, attended the meeting. Collier is a soybean grower in the U. S.

Oilseed Processing Equipment



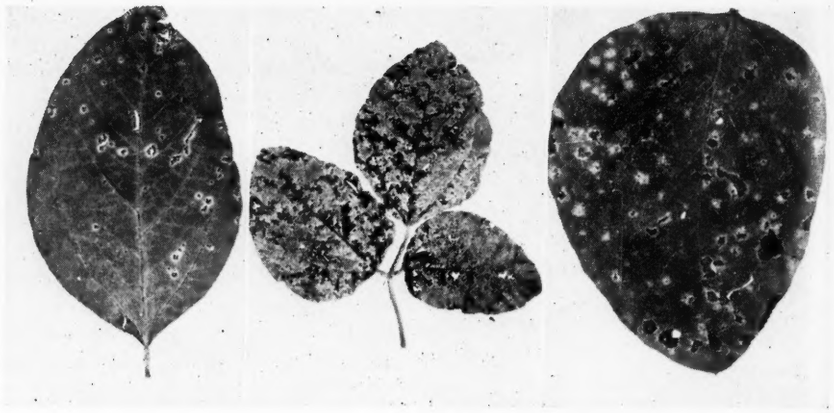
—Courtesy Oil Mill Gazetteer

Modernized preparation equipment for oilseed industry. Manufactured by Enterprise Engine & Foundry Co., San Francisco, Calif. These vertical hammermills are being used extensively in processing copra, cottonseed, flaxseed and soybeans.

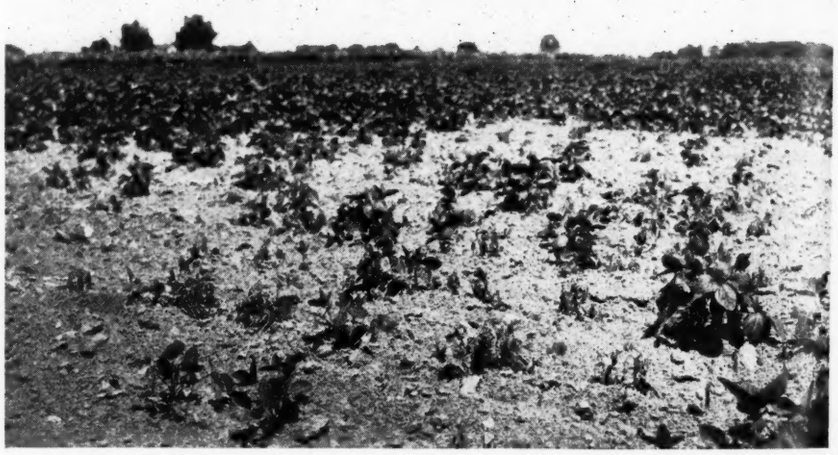
KEEPING ABREAST WITH

Soybean Diseases in Ontario[1]

By A. A. HILDEBRAND[2]
Dom. Laboratory of Plant Pathology
Harrow, Ontario



At left, bacterial blight, one of the most commonly occurring soybean diseases in Ontario. Center, mosaic, one of the most important virus diseases. Right: mildew, important on susceptible varieties.



Devastation caused by pod and stem blight in an Ontario soybean field.

SOYBEANS were first grown in Canada at the Provincial Agricultural College, Guelph, Ontario—about 1893, and their distribution to the farmers of the province began about 1901. For many years they attracted little attention and, as recently as 1940, there were only 10,000 acres altogether in Canada.

By 1944, however, the acreage had more than quadrupled itself to 45,000 acres. The official figure for 1946 is 59,200 acres and, when authoritative yield figures for 1947 are available, it is believed that they will indicate an acreage appreciably higher than for 1946.

The Canadian goal for 1948 is 100,000 acres and, based on a 5-year average yield per acre, production should approach 2 million bushels. Late in 1947 the price of soybeans had reached $3.25 per bushel. If this price holds and, if the 2-million-bushel production level is attained in 1948, the value of the crop should approximate 6 million dollars.

[1]Contribution number 936, Division of Botany and Plant Pathology, Science Service, Department of Agriculture, Ottawa, Canada.
[2]Associate Plant Pathologist.

Because of generally unsuitable climatic conditions elsewhere in the Dominion, commercial production of soybeans is restricted almost entirely to the province of Ontario. Most of the acreage in Ontario is, in turn, concentrated in a few counties in the southwestern part of the province, just across Lake Erie and the Detroit River from Ohio and Michigan, respectively.

The Laboratory of Plant Pathology at Harrow, Ontario, a link in the Dominion Department of Agriculture's chain of research institutions stretching across Canada, is located closest to the soybean-producing area. For the past several years, therefore, it has devolved upon this laboratory to keep closely in touch with the disease situation as it affects soybeans. Each year since 1941, an intensive disease survey has been made of the expanding soybean acreage and, at the laboratory, considerable pathological research has been carried out.

There are now known some 30 parasitic diseases of the soybean. Fourteen of them, or approximately half, have been found in Ontario. At least 8—possibly 9—of these 14 diseases are known to be seed-borne. The virus diseases are represented by mosaic and bud blight. Those caused by fungi are the most numerous and they include downy mildew, pod and stem blight, *Fusarium* blight or wilt, *Sclerotinia* stem rot, and brown stem rot. The bacterial diseases have a representative in the ubiquitous leaf spot or blight.

Because of the quiescence in some seasons of a disease that in other years is much more prominent, or the appearance of new diseases, or, perhaps, the attack in concentration by a disease that previously was only sporadic in its occurrence, the disease picture in Ontario has varied considerably from year to year, the pattern having been somewhat as follows:

In 1942, the incidence of mosaic reached epidemic proportions, infection ranging from slight in some stands to over 50 percent in others. The outbreak curbed in some measure the enthusiasm for soybeans that was mounting at the time. Pod and stem blight was also severe in 1942 and, like mosaic, was then regarded as a serious menace to the crop. Subsequently, this view has been modified because neither of these diseases has again been so serious a threat as in 1942.

DR. A. A. HILDEBRAND

In 1943, *Fusarium* blight held the spotlight and 1944 was high-lighted by the discovery of bud blight and charcoal rot. Of these two diseases the former causes most concern. Obviously, bud blight is on the increase in Ontario and last year for the first time a commercial stand was abandoned because of the high incidence of infected plants.

In 1945 and 1946, downy mildew, which is one of the most consistently-occurring diseases on certain susceptible varieties, flared into greater prominence than usual. Investigations at Harrow have revealed that systemically-infected plants are in many instances the source of primary mildew infection. By systemically-infected plants are meant those that harbor the fungus right in their tissues. Such plants acquire the disease in the seedling stage from mildew-infected seed. Subsequently, the growth of the fungus in the tissues keeps pace with the development of the plant.

In June or July the mycelium of the fungus appears externally on the under surface of the leaves and soon produces spores in abundance. The spores are rapidly carried by wind or rain or other agencies to neighboring healthy plants and soon a local epidemic is under way. Under favorable weather conditions local epidemics can soon become general.

In 1946, stem rot, caused by the fungus *Sclerotinia sclerotiorum*, was found for the first time. A small group of affected plants, variety Lincoln, was first noted on September 11, in the corner of a 12-acre field that was protected on two sides by a thick windbreak. By September 27, the disease had almost completely destroyed 3 to 4 acres of the 12-acre stand. In most descriptions of this disease, the stem is said to be girdled at the point of attack near the soil line, the plant dying above the girdle. In the present instance, the fungus had spread in many plants from the stem into the pods, where seeds were displaced by hard black bodies produced by the fungus, known as sclerotia. No trace of stem rot was found in 1947.

The most recently discovered disease is brown stem rot caused by a soil-inhabiting fungus *(Cephalosporium)*. Judging from its record in such important soybean-producing states as Illinois, Indiana and Iowa, brown stem rot may be one of the most dangerous diseases of soybeans so far encountered in Ontario.

Control Measures

With certain at least of the 14 parasitic diseases constituting a potential threat to the Ontario soybean crop, investigations at the Harrow laboratory have naturally been focused on possible control measures. The effectiveness of seed treatment, for example, has been under careful test for 5 years. Each year samples of seed being offered for sale throughout the district have been examined at the laboratory. Almost every year it has been possible to sort the seed into various categories, which have been given such designations as healthy, cracked-coat, etched-coat, mildew-encrusted, and lavender-stained seed, respectively. The proportion of seed falling into the different categories has varied from year to year. The quantity of seeds with cracked-coats, for example, is much greater when harvesting operations have been carried out under unusually dry rather than more humid weather conditions. The cracked-coat fractions of some seed lots combined under dry conditions have been found to run as high as 18 percent. It would seem that at least some of this seed-coat injury could be avoided by more careful adjustment of the combine.

Apart from mechanical injury, the seed produced in 1943 to 1946, inclusive, was, in general, of high germinability and surprisingly free from disease. In these respects it differed markedly from the seed produced in 1942. Weather conditions in 1942 were extremely unfavorable for the crop and the seed produced was the poorest for many years. Its germinability (23.4 percent) was, for example, less than one-third that of 1943 seed (87.2 percent) and the diseased portion amounted to almost 40 percent.

Seed Treatment

Each year since 1943, non-sorted seed as well as seed segregated into one or other of the categories mentioned above, was treated, prior to planting, with certain of the more-recently-developed seed protectant dusts, namely, Spergon, Arasan, Fermate, and Phygon (1946 and 1947, only). Except that all planting was done by hand, the tests were carried out in the outdoor laboratory plots according to accepted cultural practice for the crop. They were so designed also that results could be subjected to the type of analysis (statistical) that is regarded as necessary by the agricultural scientist.

Briefly, the results may be summarized as follows. With poor-quality, weather-damaged seed, such as that produced in 1942, with the cracked-coat (combine-injured) fraction of otherwise high-quality seed, such as that produced from 1943 to 1946, inclusive, and with mildew-encrusted seed, treatment with Spergon (2 oz. per bu.) consistently increased emergence and yield. These were the only instances, however, in which increases in early stands of plants as the result of seed treatment, were reflected in increased yields that were proven by analysis to be really significant.

Despite the fact that treatment of *healthy* seed is not likely to result in greatly increased yields, nevertheless, growers are being encouraged to adopt the practice; in fact, this spring they were urged to do so because 1947 seed, like that of 1942, showed appreciable weather damage. Moreover, some 1947 seed lots showed a high percentage of seeds encrusted with the overwintering spores of the downy mildew fungus. Downy mildew is one seed-borne disease that seems to be especially amenable to control by seed treatment with Spergon. This treatment does not appear to have modified root-nodule formation in the slightest degree.

In Ontario, bud blight is being regarded with the same apprehension as in the more important soybean-producing areas in the United States. The possibility of perpetuation and spread of the disease through the seed has been carefully investigated at Harrow over the period of the last 3 years. The evidence to date would strongly indicate that bud blight is not a seed-borne disease.

From the foregoing it may be readily gathered that the disease-picture in soybeans in Ontario is not greatly dissimilar to that in the United States. Although the number of diseases capable of attacking the crop is impressive, fortunately none of them has to date seriously curtailed crop production in Ontario. If, however, as seems to be indicated, the crop should be grown much more intensively in Ontario, it is felt that as the result of the investigations carried out at the Harrow laboratory, the disease factor may be prevented from becoming an important limiting factor in production.

—sbd—

SUCCEEDS MARSH

Appointment of C. Kenneth Shuman as general manager and Milton Hoefle as sales manager of the Glidden Co's. feed mill division, Indianapolis, was announced by Ralph G. Golseth, vice president of The Glidden Co.

Mr. Shuman, former nutritional director of the feed mill division, joined the Glidden organization in 1941 and was active in the soya products division for 4 years in product and sales development. In his present capacity, he will continue to be responsible for the nutritional and formulation phases of the company's business.

Mr. Shuman succeeds C. F. Marsh, who has resigned.

Mr. Hoefle has been active in the feed business for many years.

SOYBEAN DISEASE INVESTIGATIONS IN 1947

By DONALD W. CHAMBERLAIN

Associate Pathologist, U. S. Regional Soybean Laboratory, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration. From paper given at processor and agronomist meeting at Purdue Univ., Lafayette, Ind.

Most of the familiar diseases of soybeans were present in the Midwest in 1947, but the season presented many reversals in the scale of relative importance.

Brown stem rot *(Cephalosporium sp.)* and bud blight (tobacco ring-spot virus), two of our most important diseases in Illinois in the past 3 years, did relatively little damage in 1947, while brown spot *(Septoria glycines)*, once a minor leaf-spot, has become the most damaging of the leaf-spots in Illinois. This latter disease becomes especially bad when soybeans are grown on the same land without rotation.

The bacterial leaf spot diseases likewise contribute to the ever-changing picture. In 1943 and 1944 bacterial pustule *(Xanthomonas phaseoli* var. *sojensis)* was the most common disease of soybeans, while bacterial blight *(Pseudomonas glycinea)* was of minor importance. In 1947 bacterial blight was prevalent throughout Illinois and the Midwest generally, and bacterial pustule was rare. Wildfire *(Pseudomonas tabaci)*, a disease rather well established in Illinois a few years ago, was not seen in 1947.

Two fungus diseases were unusually common in Illinois during the past year. Rhizoctonia root and basal stem rot occurred in the early summer when cool, wet weather prevailed, killing young plants in scattered spots one to several feet in diameter. With the advent of dry weather, the disease disappeared. Later, during the hot, dry period, Alternaria leaf spot appeared on soybeans throughout most of Illinois. The dark brown, concentric-ringed lesions appeared in great numbers as the plants approached maturity. This is not considered a serious disease, since the parasite is not aggressive on vigorously growing plants.

Since disease resistance is of such importance in a plant-breeding program, an intensive search for resistant material is under way. In 1947 approximately 1100 introductions and varieties of soybeans were tested for resistance to bacterial blight at Urbana, Ill. Fifty introductions showed relatively little infection, and from this group three that appeared highly resistant were selected. Thus a promising source of resistant germ plasm becomes available to the plant breeders. So far we have found nothing that shows resistance to bud blight or brown stem rot, and the search must be continued.

Some interesting observations on brown stem rot were made in 1947. The striking leaf symptoms did not appear, and many growers assumed that no infection was present. Weekly observations were made in Illinois throughout the growing season by examining roots and stems for the presence of the fungus and the brown discoloration. The disease could be detected in roots and basal stems, and by the end of July, the internal browning had progressed a few inches up the stem. During August the disease made little advance. Records show that average temperatures for August seldom fell below 75° F. and were frequently above 80° F. This offers a plausible explanation for the mild development of brown stem rot last year, since high temperatures are highly unfavorable for development of the disease. A study of records for the previous 2 years, when brown stem rot was severe, show that August temperatures were generally much lower than in 1947.

ROTATION ONLY CONTROL FOR STEM ROT

In combatting brown stem rot of soybeans, a fungus disease first discovered in 1944, farmers in the heart of the North Central states area, where it now is established, so far have nothing except crop rotation.

But crop rotation, soybean specialists of the U. S. Department of Agriculture have discovered, is a dependable means of getting good yields, while the search for resistant strains is underway. Last year at the Department's Soybean Laboratory, at Urbana, Ill., and on nearby farms, tests of more than 1,000 varieties and some strains recently introduced from the Orient brought out none with resistance to the fungus. Even more extensive tests are under way this year. Resistant varieties would make possible growing the crop as often as desired.

First found in central Illinois, the disease has become increasingly important in that state and in Indiana, Iowa, Missouri, and Ohio. In the beginning when the brown stem rot effects showed in fields they were thought to be the result of frost damage, but there was no record of temperatures low enough for that. However, badly infected fields have a frosty appearance—white with the fungus. The plant pathologists took advantage of the whited fields to study the disease on a broad scale from the air. Photographs that contrasted healthy and infected fields brought them the evidence that it can be controlled by means of crop rotation—a soybean crop only 1 year out of 4.

Brown stem rot is held in check by hot weather but it does great damage, usually in late summer and early fall, when the temperature drops to between 60 degrees and 70 degrees F. Temperatures above 80 degrees suppress it.

The fungus is soil borne and dies out with 3 years of cropping to unaffected plants. So far it has been found to attack only the soybean and the little grown mung bean.

While the research men continue looking for breeding material with which to put resistance to brown stem rot into the crop, farmers in affected areas have the sometimes inconvenient consolation of a 4-year rotation.

—s b d—

RIDES PLANE LOADED WITH SOY FLOUR

Letters from American Soybean Association president Ersel Walley, now on tour of Europe, clearly indicate that the interests of soybean growers are being given prime consideration as he makes a survey of agricultural and food conditions on the continent.

Walley tells us that he has visited several experimental farms in Germany where plant breeders are growing some of our American varieties of soybeans in comparison with their own. It is his opinion that beans can be grown in Germany but several factors combine to make any large acreage impractical under present conditions.

Through the cooperation of those in the Military Government responsible for improving the food situation, Mr. Walley has had the opportunity to see first hand the results secured from including soy products in the diet. This work is being conducted with undernourished children and through supplemental rations provided by canteens to railroad workers and miners. The enthusiasm of those responsible for this work is running high as to the value of soybeans.

Of particular interest was the work being done by the German food industry to make the rations containing soy products more acceptable to the taste and food habits of those receiving them.

Another report explains the thrill he received when he crawled into a four-motored plane and found it loaded with 8 tons of soy flour—ready to take off for Berlin on "Operation Vittles" as that project has been named.

In other countries as well as in Germany a survey of the place soybeans should take in the food economy is being made.

We are looking forward to an interesting and more detailed report on conditions as Mr. Walley found them abroad. He will present this in person at the annual convention in Memphis.

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HEAVY TRADING IN OIL MEALS

Records of the U. S. Department of Agriculture show that about 650,000 tons of soybean oil meal and cottonseed meal were traded on the Memphis Merchants Exchange in the fiscal year ending June 30. This was more than double the figure for the preceding year.

Of the past year's trade in meal, 412,200 tons were soybean oil meal, and 245,700 tons were cottonseed meal. William B. Morgan, secretary of the exchange and pit manager, considers this volume highly satisfactory.

The Exchange is cooperating in rolling out the welcome mat to the American Soybean Association convention at Memphis September 13-15.

The history of protein meal futures trading at Memphis goes back to 1929, when the cotton oil processing industry recognized the growing importance of cottonseed cake and meal in the nation's feed trade. To fill the need for orderly marketing machinery, the Memphis Merchants Exchange inaugurated future trading in that commodity under the most approved methods and delivery systems.

Rapid development of soybean production and its large contribution of soybean meal to the supply of protein feeds resulted in the addition of soybean meal futures to the Memphis board in July, 1940. The entire feed industry quickly accepted the Memphis market as the basing point for protein meal futures.

The Memphis Merchants Exchange has 140 members, 90 of which are residents of Memphis and the remainder representing 15 states. As an adjunct of the Memphis Exchange, the Clearing Association has 12 members.

The market has four call sessions daily and operates under a license and the supervision of the Commodity Exchange Authority. The trading unit is 100 tons in both commodities and the price multiple is 5 cents a ton. Grades tenderable on futures contracts are prime 41 percent protein cottonseed meal in bags of 100 pounds, and prime 41 percent old process soybean meal in bags of 100 pounds, net weight.

Delivery points on cottonseed meal are Memphis and Cairo, Ill. For soybean meal, delivery points are Bloomington, Champaign, Decatur, Gibson City, Peoria, Springfield and Taylorville, Ill. Cottonseed meal is f.o.b. Memphis at par and soybean meal is f.o.b. Decatur, Ill., at par.

Present officers of the Clearing Association are L. B. Lovitt, president, A. A. Williams, vice president, May E. Neutzel, treasurer, and William B. Morgan, secretary and pit manager.

With increased acreage being devoted to production of soybeans in cotton territory and the expansion expected to continue because of labor conditions and crushing facilities, the volume race between soybean meal and cottonseed meal futures on the Memphis exchange is expected to continue keen.

The Memphis Merchants Exchange Clearing Association has a committee cooperating wholeheartedly with the American Soybean Association in making arrangements for the ASA convention at Memphis in September.

Members of the committee are: J. M. Trenholm, chairman, president Standard Commission Co.; A. J. Sumner and J. S. Buxton, partners in the firm of E. E. Buxton; Ed Jappe, vice president and general manager of Marianna Sales Co.; Fred C. Lovitt, partner of L. B. Lovitt & Co.; and William B. Morgan.

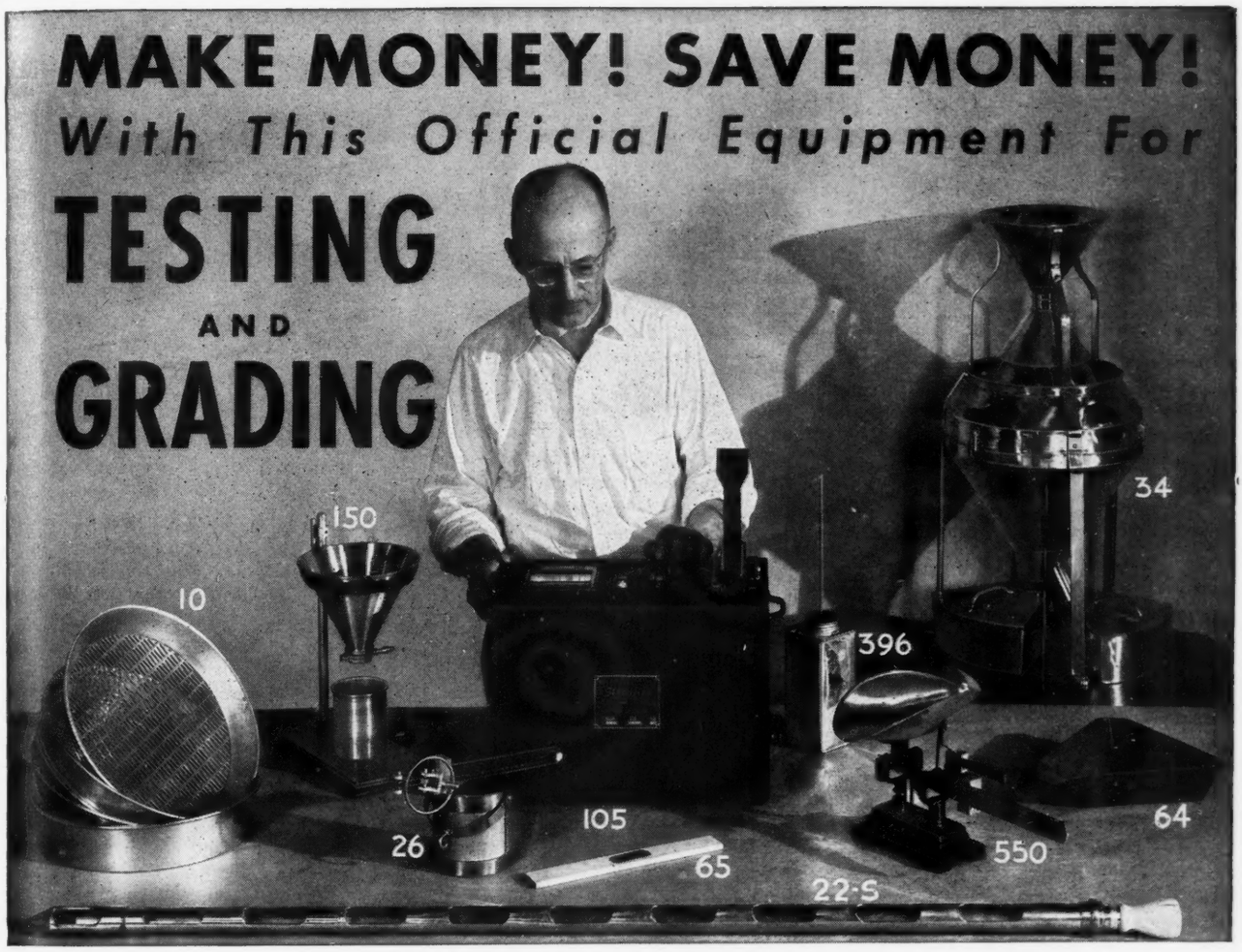
FOREIGN MARKETING SURVEY, FATS, OILS

Howard A. Akers, a marketing specialist of the Production and Marketing Administration's fats and oils branch, will study conditions abroad affecting foreign markets for this country's present or potential exportable supplies of fats, oils and oilseeds.

His survey will be made through the Office of Foreign Agricultural Relations under the Research and Marketing Act, and will be similar to studies made, now under way, or planned with regard to the foreign markets for other crops.

Mr. Akers left August 1 for western Europe where he will first study fats and oils markets. He will make a first-hand investigation of the oil-crushing industry in selected European countries in relation to prospective markets for United States vegetable oils, and oilseeds. Later he will investigate the most important oil-producing areas in Africa, and correlate the information gained in his two-continent survey for the benefit of United States producers and marketers.

HOWARD A. AKERS



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PROSPECT FOR BUMPER CROP

The soybean crop in July maintained or bettered its excellent early start. Plant growth is very heavy in many places, but the crop will mature almost everywhere by normal frost date. Exceptions are fields planted late due to dry soil or following small grain.

Yields will probably be enough heavier than 1947 to compensate for the smaller national acreage.

Grasshopper infestations are quite widespread over the soy belt. This may cut yields. Some mosaic and mildew are reported in Illinois.

There is a wide variation in the number of weeds in bean fields, but considerable areas report more than a normal weed problem.

A reduction of about 10 percent from last year is indicated for the 1948 acreage of soybeans *grown alone for all purposes*, according to the July 9 report of the U. S. Department of Agriculture. The 11½ million acres planted this year is the lowest since 1941, but is still about 5 percent higher than the 1937-46 average of 10.9 million acres.

Growers intentions as of July 1 point to about 9.9 million acres of soybeans for harvest as *beans*. This is about 1¼ million acres less than last year or a reduction of about 11 percent.

The heavy producing North Central states show the sharpest decline in acreage planted from a year ago—down 12.5 percent. All the major producing states of this area report declines, ranging from 6 percent in Ohio to 19 percent in Iowa. Indiana and Illinois each report a reduction of 10 percent from 1947. The South Atlantic states is the only area which indicates an increase. This was brought about by increases in Virginia, North Carolina, South Carolina and Georgia. The South Central states as a group have slightly less acreage than last year although Kentucky, Tennessee, and Louisiana show some increase. Arkansas, the largest producer in the area shows a rather sharp decrease—13 percent below 1947.

Reports of *Digest* correspondents follow, for July 28 unless otherwise noted:

ARKANSAS

Wheeler R. Perkins, extension agronomist, Little Rock: (July 24) Maturity about normal. Plenty of rain in most areas. Yield outlook good but acreage smaller than usual. Weeds and grass a problem in some areas, but crop is fairly clean.

L. M. Humphrey, Scott for Little Rock area: (July 26) Maturity close to normal. Temperature and moisture conditions ideal for beans. Yield outlook good if favorable weather continues. Wet weather stopped cultivation and crab grass and careless weeds are worse than usual.

U. S. Weather Bureau: (July 20) Soybeans excellent.

Jacob Hartz, Stuttgart, for east central: Maturity about normal. Too much rain in most sections. Beans grassy and need cultivation or crop will be materially affected. Yield outlook good if rains stop.

ILLINOIS

Russell S. Davis, Clayton, for west central: (July 26) Less than 5% of crop delayed by dry seedbed. A few fields seeded after wheat harvested. Abundant moisture since June 20. Yield outlook very promising. Crop making rank growth and lodging some already. Very difficult to walk through even 40-inch rows. They cover the ground about same as drilled solid fields. Two or 3% would be caught by early frost. Some fields covered with butter print. Grasshoppers a threat.

Gilbert F. Smith, Mahomet for east central: Crop normal maturity. Late planted fields coming along fast. Three rains of 1½ in. in 10 days. Indicated yield average. Not more than 10% would be caught by early frost. Velvet weeds beginning to show up over the beans. Lots of corn in places. Grasshoppers causing some border damage.

H. I. Cohn, Wrights, for west central: Maturity 2 weeks ahead of normal. Weather excellent. Good crop in this area far ahead of 1947. Weeds bad due to too many rainy days but soybean plants vigorous, tall and full of bloom. Some grasshoppers but not enough for widespread damage.

J. C. Hackleman, extension agronomist, Urbana: (July 26) Maturity normal or possibly ahead of normal in central and northern. In east central few fields planted late awaiting rains. Many fields came up to poor stand in drier portions of state but rains last half June corrected that. Heavy rains last 2 weeks hastening grass. Yield outlook good. Wet weather may cause more than normal weed competition. Some mosaic and mildew. Grasshoppers are greatest threat but can be controlled if growers find them quickly enough and then use chlordane which seems to provide practically 100% sure control.

J. E. Johnson, Champaign for Champaign and adjoining counties: (July 26) Maturity 10 days ahead of normal. This due to earlier seeding followed by heaviest July rainfall in many years. Blooming began on earliest fields July 10. Rains to excess July 10-25. Small amount of damage in lowest areas. Growth exceptionally heavy, which is ordinarily taken as a criterion for high yields. Question this as plant nodes are wider apart with no more beans in pods or more pods in cluster. Indications are yield should be high average. Anticipate weediest fields in some years. Worst of all weed pests, wild millet, is starting to show heavily. Grasshoppers are a threat, going to soybean fields in preference to corn. They will cut the blossoms reducing podding, and later cut pods resulting in weather damage. Many fields being sprayed. Very effective in kill, but only a small percent of total acreage will be so treated.

Frank S. Garwood & Sons, Stonington, for south central: (July 30) Maturity farther advanced than normal. Weather has been unusually wet and humid. Due to high moisture, beans are making an unusually heavy growth and promise good crop. Some grasshoppers.

APPLICATIONS OF THE SPARKLER HORIZONTAL PLATE FILTER WITH REGARD TO THE SOLVENT EXTRACTION AND REFINING OF SOYBEAN AND OTHER VEGETABLE OILS

The usual practice in solvent extraction work is to crack the bean in the presence of an optimum amount of exposure to steam, and then by various means subject the cracked bean to one of several selected solvents, usually in a counter-flow process. The solution thus obtained contains a small amount of flour and still smaller occasional amounts of other foreign materials, which, if left in the solution, tend to produce an off-colored oil when the solvent and the oil are separated by evaporation or distillation.

The Sparkler Horizontal Plate Filter is being used successfully for the removal of these foreign solids which are mostly proteins. It lends itself particularly well to different types of work because of:

1 **The horizontal plate construction which assures even distribution of solids on the filter surfaces and which also produces an absolute uniformity of density of the "cake."**

2 **The unit is totally enclosed, leak- and vapor-proof which naturally removes one of the hazards always attendant with the use of toxic or explosive vapors.**

3 **Intermittent operation or occasional shutdowns have no bearing on the clarity of the filtered product obtained with a Sparkler filter, the results are always constant regardless of interruptions in flow.**

4 **Clarity of filtrate is obtained almost immediately, as it is not necessary to wait for the precoat or initial coating of the filter holding media.**

There is, of course, an equally well founded place for the Sparkler unit in the refinement of these same oils, as regards both hydrogenation and bleaching. In the hydrogenation process, it is frequently necessary to filter for the removal of very finely divided catalyst. This material used at its best is reduced to nearly colloid size for greatest surface exposure, and therefore may in some types of equipment represent a difficulty of removal. The Sparkler experiences no such difficulty and the removal is complete and at low pressures.

Regarding the bleaching processes where carbons and/or clay are used, it has been found expedient in early times to use a filtration process which embodied the removal of the cake from the filter into drums for further processing in the solvent extraction plant and subsequent second filtration. All of this is obviated by immediate solvent extraction as soon as the cake is completely formed by washing through in the same or a twin filter with solvent, gathering the solution in drums or containers, and transporting only this nearly finished product to the solvent plant for separation. It can be seen readily enough that this phase of the process is of paramount importance in the saving of time, labor and the quality of the oil.

—Decatur, Ill., Herald and Review photo

Grasshoppers were doing considerable damage to soybeans in some areas in July. This picture was taken by the Decatur, Ill., "Herald and Review" on the Henry Flach farm in Macon County, Ill. Grasshoppers moved into the soybeans shortly after a field of alfalfa across the road was cut.

Walter W. McLaughlin, McLaughlin Agricultural Service, Decatur, for Decatur and vicinity: (July 30) Maturity ahead of normal. Plenty of moisture. Yield outlook quite promising. Drilled beans weedy. Some serious grasshopper damage.

A. J. Surratt, agricultural statistician, Illinois and U. S. Departments of Agriculture, Springfield: Maturity normal. Weather perfect. Yield outlook 10-15% above 1937-46 average of 21.4 bu. 10-15% would be caught by early frost. Fields somewhat more weedy than usual. Corn and beans developing rapidly under ideal July weather for growth of all green crops. Heavy bloom, earlier fields starting to pod. More grasshoppers than usual but extensive damage unlikely, if abundant growth of green crops and weeds continues. Considerable spraying being done to combat hoppers.

INDIANA

Lester B. Mayer, Walley Agricultural Service, Inc., Fort Wayne, for northeast Indiana and northwest Ohio: (July 24) Maturity about normal. Weather almost perfect. Have had rains when needed. Yield outlook excellent. Very small percentage would be caught by early frost. Prospects for best crop in several years. Most solid beans very weedy.

J. B. Edmondson, Danville, for south central: (July 24) Maturity normal to 1 week ahead; 2 weeks ahead of 1947. Lincolns now in full bloom. Lower pods forming on Hawkeyes. Three weeks dry weather at planting time resulted in spotty stands in some fields or uneven growth in others. Much seed in dry places germinated after rains, 2 weeks late. Yield outlook normal to above. Thin stands in many fields will hold down yields. Fields with even germination looking fine with high yield prospects. Good color indicates health and vigor. Not over 2% would be caught by early frost. Acreage cut 5-10% under last year. Yield prospects are enough greater to predict about equal total yield. Weeds generally not bad.

Peter J. Lux, acting chairman, Indiana PMA state committee, Indianapolis: Crop well ahead of last few years with most fields blooming. Weather excellent. Wonderful growth. Yield indications are well above average for all sections of state. Some weedy fields reported but conditions not as serious as in previous years.

K. E. Beeson, Indiana Corn Growers Association, West Lafayette: (July 26) Maturity normal. Weather excellent for soybeans. Yield outlook good. Fields reasonably free of weeds. More grasshoppers than usual.

IOWA

Fred Hawthorn, Castana, for western: (July 31) Maturity week ahead of normal. Weather excellent. Yield outlook very good. Generally bean fields are clean. Lots of pigweed in our fields. Grasshoppers bad.

Howard L. Roach, Plainfield, for northeast: (July 26) Maturity 10 days ahead of normal. Weather and moisture conditions good. Yield outlook 15% above 1947.

Otis J. Luttschwager, acting chairman state PMA: (July 23) Maturity above average. Pods setting. Weather and moisture conditions perfect. Yield outlook excellent. Fields very clean of weeds. Some grasshoppers in southern Iowa.

O. N. LaFollette, Iowa Department of Agriculture, Des Moines: (July 23) Maturity slightly ahead of normal. Weather fair to good with most areas having ample moisture. Yield outlook materially above last year. Most fields moderately free of weeds. Grasshoppers mainly in southern portion of state. Apparently iron deficiency in some areas. Some hail damage, mainly in northwest.

KANSAS

E. A. Cleavinger, extension division, Kansas State College, Manhattan, for eastern: Maturity 100%. Beans were planted about normal date and have made normal growth. Field, weather and moisture conditions almost ideal. If continues as favorable as June and July soybean yield will probably be highest on record. Fields exceptionally free of weeds. Grasshoppers may develop, so in certain sections some damage will occur.

H. L. Collins, Topeka: (July 31) Maturity perhaps 1 week earlier than usual. Weather rainy, cool. Beans have made rapid growth and are setting well. 5% would be caught by early frost. Fields fairly clean though some late beans weedy. Prospects for soybeans in Kansas most favorable in years.

MICHIGAN

C. J. Borum, Lansing: About normal development. Weather and moisture conditions satisfactory. Yield outlook good. Very few would be caught by early frost.

MINNESOTA

R. N. Beiter, Faribault, for south central: (July 26) Maturity at least 5 days ahead of normal and 2 weeks ahead of 1947. Moisture and growing weather perfect. Timely and widespread moisture received July 19-24. Have never seen crop look better. Late emergence due to dry weather in June coming nicely. With favorable continued growing weather should be few caught by frost.

R. E. Hodgson, Waseca, for southeast: (July 24) Maturity normal. Weather has been very dry but plenty of rain now. I have never seen beans look better. Most are unusually clean of weeds. Grasshoppers too numerous in some localities. There is always a tendency to try very late varieties in hope of unusual yields. Some Lincoln seed has been sold. Adapted varieties should all get ripe if fall weather normal.

John W. Evans, Montevideo, for southwest: Maturity advanced. Ottawa Mandarins forming pods. Earlyanas in blossom. Excellent moisture and growing conditions. Plants good height. Late plantings or 15% would be caught by early frost. Fields clean.

MISSISSIPPI

U. S. Weather Bureau: (July 20) Soybeans good progress, now in good condition.

MISSOURI

J. Ross Fleetwood, extension specialist, Columbia: (July 29) Crop more mature than normal, due to earlier planting and excellent moisture. A little too much rain in many spots but on whole weather fine. Yield outlook very good. 15% would be caught by early frost. Weed situation quite serious in some fields. Some grasshoppers.

E. M. Poirot, Golden City: (July 25) Weather very wet. Some fields yellow. Weeds, weeds, grass, more weeds. Yield outlook not so good.

A. F. Stephens, agricultural agent, Gulf, Mobile & Ohio Railroad, for central Missouri and Illinois north of East St. Louis: Maturity 90% normal. Weather and moisture conditions excellent. Yield outlook good. Lots of grasshoppers. Have never seen crop look better.

Harry A. Plattner, Malta Bend, for central: (July 24) Maturity normal. Plenty of moisture. Yield outlook very good. On good stands it looks like 25 or more bushels. None would be caught by early frost except those planted after wheat. Most are weedy due to lack of help and wet ground.

Edward Tillman, Missouri Soybean Co., Caruthersville, for southeast: (July 26) Most of crop very well advanced. Some young beans behind small grains responding to plenty of moisture and ideal weather conditions. Acreage down 10-20% but yields should be as good as best previous years. Substantial acreage of late beans but they will get very good yields unless we have too much dry weather. Should get from 25 to 30 bu. per acre. Weed situation not as bad as last year.

NEW JERSEY

John E. Baylor, extension associate in farm crops, New Brunswick: Maturity normal. Weather mostly warm and humid during month with about 4½ in. of rain. Yield outlook normal. Higher weed infestation than normal but nothing serious.

OHIO

D. F. Beard, extension agronomist, Ohio State University, Columbus: (July 26) Maturity normal or earlier. Weather ideal in most places. Local areas less favored. Yield outlook excellent in clean fields. Uncertain but less favorable in weedy fields. Weed situation bad. Late planting with fewer weeds last 2 or 3 years gave growers feeling of security that led to trouble this year. Many fields so weedy yields will be reduced.

D. G. Wing, Mechanicsburg, for west central: (July 24) Maturity good. Ahead of 1947. Ideal planting conditions and rain last week made wonderful bean fields. Yield outlook 10-20% above 1947. Weeds are getting bad in fields that were not cultivated. Grasshoppers going to be bad.

W. G. Weigle, Marsh Foundation Farms, Van Wert, for northwest: Crop looking very good. Good stands. Beans outgrowing weeds and of normal growth. Are heading for

bumper bean crop providing we have favorable August. Present yield outlook at least 20% above normal, which can help to offset decreased acreage. Many weedy fields but beans are not hurt at present. Grasshoppers will cause some damage.

G. G. McIlroy, Irwin, for west central: (July 24) Maturity around normal. Have had 6.1 in. rain during last 13 days and it looks like more. Growth and development rapid. 10% would be caught by early frost. Weeds will be bad in solid planting. It is my opinion that acreage of soybeans has been reduced more in Ohio than we have all estimated.

NEBRASKA

Harry E. Wiysel, Fremont Cake & Meal Co., Fremont, for east central: (July 24) Maturity normal to week ahead. Weather and moisture conditions excellent. Yield outlook above average. Fields very clean of weeds.

NORTH CAROLINA

Henry G. Brown, agricultural statistician, Department of Agriculture, Raleigh: (July 26) Maturity normal. Frequent rains during past 2 weeks adequate and very beneficial. Yield outlook average or better. Crop planted on time and now making favorable progress although a 4-week period of dry weather resulted in spotted conditions in local areas. Weeds fairly well controlled. Some early reports of army worms but no significant damage reported.

NORTH DAKOTA

C. J. Heltemes, agricultural statistician, Fargo: (July 24) Development ahead of normal. Very good moisture at present time. Yield outlook good. More weeds than usual in eastern part of state.

SOUTH CAROLINA

W. R. Paden, agronomist, Clemson: (July 26) Maturity average. Frequent moderate to heavy rains have provided excellent moisture conditions. Yield outlook average or above.

SOUTH DAKOTA

H. G. Miller & Son, Garden City, for Clark County: (July 26) Maturity better than normal. Weather very favorable and abundance of moisture, plenty to produce nearly all crops without more rain. Yield outlook very good.

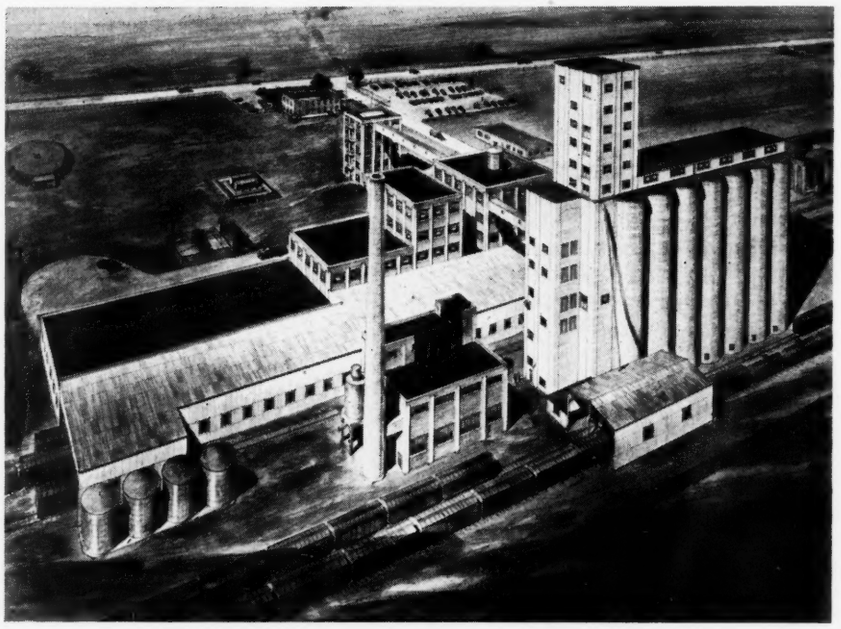
VIRGINIA

Henry M. Taylor, Department of Agriculture, Richmond: Maturity 1 week to 10 days later than usual due to late planting. Weather and moisture conditions generally very good, but too much rain in heavy producing southeastern counties. More weeds than usual.

CANADA

Robert H. Peck, River Canard, Ontario, for southwestern: Maturity about normal. Excellent growing weather with fair amount of moisture. Fields quite clean on average with a few weedy. A few grasshoppers at edge of some fields. With good growing conditions for next month will be better than average crop.

—sbd—



Kankakee, Ill., solvent extraction plant of Borden's Soy Processing Co. began operations July 7. Capacity of the plant is 150 tons daily.

INCREASE TRADING LIMIT

The Board of Directors of the Chicago Board of Trade has voted to increase daily trading limits on soybeans from 8c per bushel to 10c per bushel, effective August 5.

BORDEN CO. BEGINS KANKAKEE OPERATION

Borden's Soy Processing Co. began operating its new solvent extraction soybean plant at Kankakee, Ill., July 7, C. E. Butler, president, announces.

"We expect to operate up to capacity until the new crop," stated Mr. Butler. Operation of the Kankakee plant is under the division office in Waterloo.

The plant was constructed by Crosby Construction Co., Chicago, using French extraction equipment. Daily capacity is 150 tons and storage capacity is about 1 million bushels.

Resident manager at Kankakee is W. A. Sommer, a Borden Co. employee for 14 years. Plant superintendent is George Harris, formerly with Central Soya Co., at Decatur, Ind.

Soybean buying and sale of oil and meal will be handled partly through the Waterloo division office and partly through Borden's Chicago office.

YOUR PRODUCT WILL "Go Places" IN A BEMIS BAG

That's literally true in two ways—as far as handling is concerned and as far as sales promotion is concerned.

First, Bemis makes quality bags designed to withstand maximum handling. Second, Bemis Bags are designed with an eye to appearance—they make your packages look better and sell better.

Bemis Service includes unbiased packaging advice because we make all types of bags for the soybean industry. Call your Bemis representative.

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Pittsburgh • St. Helens, Ore. • St. Louis
Salina • Salt Lake City • San Francisco
Seattle • Wichita • Wilmington, Calif.

RICKARD KOREANS

(Continued from page 13)

tent increased slightly in the beans grown in Illinois over those grown in Ontario. This finding cannot be accepted as conclusive, because of the small number of tests made.

Under normal conditions the plants reach a height of 24 to 36 inches. The spacing between the nodes is unusally short, running from 1¾ to slightly over 2 inches. Blooms are both white and purple, the stems, pods and pubescence are dark brown. About 10 percent of the pods contain 4 beans. The beans themselves run unusually large, the pods do not shatter easily, the yields are excellent. The plant type is well established, except for variation in color of blooms. They have a main stalk having branches which grow as tall as the main stalk and which have a tendency to come together at the top. The seed coat is yellow, the hilum is large and black. The shape of the bean is almost spherical. The size of the bean many times runs so large that 1,400 beans will weigh a pound.

An analysis by the Regional Soybean Laboratory of the 1946 crop showed an oil content of 20.8 percent, protein 43.9 percent, iodine number 130.2. The beans will mature about a week earlier than Richlands and from 8 to 15 days before Lincolns.

In one report E. T. Rickard stated that: "A field of 13.02 acres at Alexander, Ill., planted 1 day after Lincolns in same field all around it, was combined 17 days before the Lincolns, with 11 percent moisture. Lincolns combined 17 days later went to market with 12-plus percent moisture. Early Koreans had 3.74 percent cracked beans, Lincolns had 17 percent cracked beans, combined by same combine and same operator. This field yielded 482 bushels of early Korean beans, or 37 bushels per acre, and showed no sign of disease. And because they podded so close to the ground I am sure at least 2 bushels per acre were left in the field. The 13.02 acres were in the center of a 55-acre field with Lincolns all around them. The Lincolns yielded 35 bushels per acre. The field was in corn in 1945, and had no fertilizer on it excepting limestone.

"After cracked beans were taken out, 3.69 percent of the whole beans would pass through a screen with 18/64-inch round perforations, and only 12.16 percent would pass through a 19/64-inch round perforation screen. A very large percent of the beans will not pass through a 20/64 screen."

An effort will be made this season to determine if the Rickards will do as well in the fine Cypress soils of southeast Missouri as in the Illinois River bottom. It is definitely established that the variety will do well on the Illinois prairie soils. If the Rickard proves to be a good yielder in southeast Missouri it should make a fine addition to the varieties now grown there, as the high oil content and early maturity will fill many requirements in that area.

—s b d—

NEW PHILLIPS FIRM

Chemical activities of Phillips Petroleum Co. have been expanded through the formation of a wholly-owned subsidiary, the Phillips Chemical Co., it is announced. The new chemical company was organized for the purpose of conducting Phillips Petroleum Co.'s chemical and synthetic rubber operations as well as its furnace-type carbon black operations now handled by another wholly-owned subsidiary, Philtex Chemical Co.

Key officers of Phillips Chemical Co. are Frank Phillips, chairman; K. S. Adams, president; Ross W. Thomas, executive vice president; Paul Endacott, Don Emery, G. G. Oberfell and R. C. Jopling, vice presidents. G. W. McCullough has been appointed vice president and general manager.

—s b d—

STANDARDS UNCHANGED

The U. S. Department of Agriculture announced August 2 that no changes will be made this season in the official standards for soybeans.

Some grain dealers associations had suggested changes relating to dockage, foreign material, moisture content and splits. Four hearings in Midwestern cities were held on these proposals in June.

USDA said it will give further consideration to the matter of changes and may promulgate changes for the 1949 crop. Such changes would be issued not later than June 1, 1949, without further public hearings.

Publications

Feeding

AMINO ACID DEFICIENCIES OF RAW AND OVERHEATED SOYBEAN OIL MEAL FOR CHICKS. By James McGinnis and Robert John Evans. Divisions of poultry husbandry and chemistry, Washington Agricultural Experiment Station, Pullman, Wash. *Scientific Paper No. 719.*

Nutritive value of soybean oil meal has been shown to be improved by proper heat treatment and impaired by autoclaving for too long a time or at too high a temperature. It has been found that overheated soybean oil meal, in a practical chick diet, is deficient in available methionine and lysine.

This experiment was undertaken to determine whether other amino acids are made unavailable to the chick by prolonged autoclaving.

Data obtained with chicks using a diet in which soybean oil meal supplied all of the protein permit the following conclusions:

1—Chick growth was not improved by supplementing a diet containing raw soybean oil meal with cystine. The addition of methionine to this diet gave a growth response that was not maximum.

2—Autoclaving raw soybean oil meal at 100° C. for 30 minutes gave a marked increase in its nutritive value as shown by chick growth. Neither methionine nor cystine nor a combination of these two amino acids improved chick growth when added to the diet containing soybean oil meal autoclaved at 100° C. for 30 minutes. Furthermore, a combination of cystine, methionine and lysine failed to improve growth.

3—The nutritive value of soybean oil meal was decreased by autoclaving at 130° C. for 60 minutes. The heat damage to the soybean proteins caused by this treatment was not corrected by the addition of methionine, cystine or lysine. A combination of these three amino acids corrected the heat damage caused by this autoclaving treatment.

4—The growth response given by autoclaving raw soybean oil meal at 100° C. for 30 minutes was more than twice as great as the response given by a supplement of methionine. This indicates that autoclaving raw soybean oil meal improves the nutritive value by affecting the availability of nutrients other than cystine or methionine.

PROTEIN SUPPLEMENTS FOR HOGS. Report of Allen Heidebrecht on tests on protein supplements for hogs at annual feeders day program, Oklahoma A & M College, Stillwater, Okla.

Pigs receiving soybean oil meal as the only protein supplement in a fattening ration supplemented with enough ground limestone for normal good health required less feed to produce 100 pounds of gain and showed more profit per pig than did pigs receiving meat and bone scraps or tankage with bone.

Meat and bone scraps were found to be inferior to soybean oil meal, tankage or tankage with bone, when measured by rate and efficiency of gain in the pigs fed the supplements.

Margarine

SHOULD CANADA PERMIT OLEOMARGARINE? Summary of a debate in Montreal between Senator W. D. Euler, who had introduced a bill to remove the Canadian ban on margarine, and H. H. Hannam, president of the Canadian Forum of Agriculture. *Family Herald and Weekly Star.*

A 61-year-old law prohibits the sale of margarine in Canada.

Senator Euler's arguments in favor of repeal of the ban:

1—The margarine ban is a unique kind of curtailment of individual rights as it forbids competition between industries within Canada, whereas tariffs merely limit imports.

2—Margarine is in itself wholesome and palatable.

3—Margarine, if allowed, would sell for only half the price of butter.

4—Margarine is not banned in any other country.

5—It has not hurt the dairy industry in other countries, therefore would not hurt it in Canada.

6—All the ingredients of margarine could be grown by Canadian farmers.

7—Canada's shortage of butter is chronic.

"If it is right to ban margarine because it might compete with butter, why not ban Crisco because it competes with lard; silk and nylon stockings because they compete with wool; orange and grapefruit juice because they compete with our tomato juice and apple juice; leatherette with leather, plastics with wood and so on ad infinitum and ad nauseam?" Asks Senator Euler.

Mr. Hannam's arguments against repeal of the margarine ban:

1—Margarine would cause oversupply of butter and depress prices.

2—Industry has always been protected by a tariff so dairy farmers should be protected by the margarine ban.

3—Butter shortage is not the farmer's fault.

4—Low average price of butter for many years has resulted in a very high per capita consumption in Canada.

Soy Flour

EFFECT OF SOY FLOURS ON RATE OF STALING IN PLAIN CAKE, by L. B. Powers and J. I. Simpson, *Food Research.*

Soy flour has been suggested as an agent for retarding the staling of bakery products. To test its effectiveness in cake, 15 percent soy flour of high-fat, low-fat and minimum-fat types was added to cake-flour, and standard cakes containing sugar, hydrogenated fat, egg and milk, were baked and tested for staleness after 24, 48 and 96 hours.

Compressibility of the crumb was used as an objective test and indicated a difference between cakes 3 and 24 hours old. There was no significant difference, however, between 24, 48 or 96 hours, nor between cakes made with the control cake flour and those with any of the three types of soy flour added. When cakes were judged subjectively for freshness, tenderness, grain, texture, color, moistness and general desirability, significant differences appeared for each type of flour.

When scored for freshness all were scored equally after 3 hours, but after 24 hours the all cake-flour product was rated fresher than the minimum-fat soy flour cake. After 72 hours the high-fat soy flour cake was rated fresher than the minimum-fat sample. No consistent pattern of staling could be discerned.

Ink imprints of slices of the cakes, made 3, 24, 48, 72 and 96 hours after baking, indicated that, starting from very similar grain the cakes containing soy flour were noticeably coarser after 96 hours than the cake flour standard.

Oilseeds

EXPERIMENTS WITH SESAME IN SOUTH CAROLINA. By J. A. Martin, assistant horticulturist, Clemson Agricultural College, Clemson, S. C. *American Cyanagrams.*

Experimental work with sesame has been underway at Clemson Agricultural College since 1943 to study and observe the cultural and harvesting requirements and to determine whether or not the crop is adapted to normal farming practices in South Carolina. During the preliminary tests it was observed that sesame grows luxuriantly in South Carolina and that it offered interesting possibilities as a crop for edible oil and confectionery purposes.

The obvious important advantages of certain sesame varieties according to the experimental tests are high yields, high oil content, adaptability to South Carolina conditions, disease and insect resistance, and adaptability to a wide range of soil types. The main disadvantage of sesame is its seed shattering and uneven ripening characteristics.

HONOR BURLISON

One of the highlights of the 65th annual meeting of the American Seed Trade Association at French Lick, Ind., in June, was the selection of Dr. W. L. Burlison, head of the department of agronomy at the University of Illinois, Urbana, Ill., for honorary life membership in the Association.

Burlison was nominated for the honor by Dr. J. R. Holbert, president of the Association. President Holbert said the honor was bestowed on Burlison for his outstanding achievement in administration of fundamental agronomic research, pioneering of soybeans and soybean products, and for helping to develop good working relations between the seed industry and our agricultural experiment stations.

DR. BURLISON

During the annual banquet, Dr. Burlison was presented with a plaque emblematic of the various phases of research sponsored under his leadership.

GRITS and FLAKES...

FROM THE WORLD OF SOY

Makeup of the new *Burrows Buyers' Guide* just off the press is strictly unique. In handy and compact form the *Guide* provides a complete source of grain and seed testing and handling equipment. A free copy may be obtained from Burrows Equipment Co., 1316-SD Sherman Ave., Evanston, Ill.

* * * *

Bulletin 605-6X from Stearns Magnetic Mfg. Co., Milwaukee 4, Wis., describes and illustrates the new Series X-60 magnetic disc brakes for fractional horsepower application. It contains complete specifications and feature data.

* * * *

Dr. Clive M. McCay, professor of nutrition at Cornell University, Ithaca, N. Y., whose work with soybeans in human nutrition attracted attention during the war, has won the first National Dog Week $2,000 research award, for his work with dog nutrition.

* * * *

Harry C. Williams has been appointed general sales manager of the H. K. Ferguson Co., industrial engineers and builders of Cleveland, Ohio. During the war he served on the War Production Board, in charge of air conditioning and refrigeration requirements for 900 manufacturing plants which converted to war work

* * * *

George P. Haberstein has been appointed eastern sales manager, and Logan G. Hill assistant eastern sales manager of the multiwall bag division of St. Regis Paper Co. Walter M. Neill, formerly eastern sales manager, was recently elected a vice president of St. Regis Sales Corp.

* * * *

The land, buildings and equipment formerly owned by the Gallie-King Bag Co., Houston, Tex., have been purchased by Bemis Bro. Bag Co. Bemis will use the property in addition to its present facilities in Houston.

* * * *

"Co-ops, Farmers Represented by John W. Evans," is title of an article in the June *Farmers Elevator Guide*. Article recounts Evans' work with farmers cooperatives and other farm organizations. He is American Soybean Association director from Minnesota.

* * * *

Promotion of G. D. Andrews, advertising and sales promotion manager, to the newly created post of assistant general sales manager of Dearborn Motors Corp., Detroit, has been announced. Andrews joined Dearborn Motors in February 1947.

* * * *

James F. Pedder, vice president and account executive of Meldrum and Fewsmith, Cleveland and Detroit advertising agency, has been appointed advertising and sales promotion manager for Dearborn Motors Corp., Detroit. Pedder was formerly director of employee information for General Motors.

* * * *

Jesse L. Weinberg has been named secretary of Food Research Laboratories, Inc., Long Island City, N. Y. He will be comptroller and general manager of business affairs of the Laboratories, and will have charge of personnel and public relations.

* * * *

Durkee Famous Foods, makers of "Durkee's Margarine," ran ads in national magazines in June listing 26 states in which housewives can now buy yellow margarine.

* * * *

Dr. Kenneth C. Beeson has been named director of the U. S. Plant, Soil and Nutrition Laboratory at Ithaca, N. Y. He succeeds Dr. Karl C. Hammer. Dr. Beeson has specialized in study of the occurrence of mineral deficiencies in plants and animals since joining the Laboratory staff in 1940.

* * * *

Purchase of one of the buildings now occupied by the American Refrigerator and Machine Co. in Minneapolis by Bemis Bro. Bag Co., is announced by Judson Bemis, manager of the Bemis Minneapolis bag factory.

* * * *

Production was back to normal within 30 days after fire seriously damaged the new plant of the B. I. Weller Co., East Chicago, Ind., the firm reports. Temporary construction will enable the company to carry on normal production pending the permanent rebuilding job to be completed October 1.

HEADS CENTRAL SOYA

FRED W. THOMAS

Dale W. McMillen, chairman of the board of directors of Central Soya Co., Inc., Fort Wayne, Ind., has announced the election of Fred W. Thomas as president of Central Soya. Thomas, who has been in the feed business since 1929 was selected to fill the position made vacant by the resignation of Robert H. Fletcher. Mr. Thomas assumed his duties August 1.

Mr. Fletcher came to the Central Soya Co. in March of 1943 as assistant to the president and general attorney. In November of 1944 he was made president of the company. Mr. Fletcher said at this time he had no plans to announce for the future.

The new president of Central Soya, a Purdue graduate, has been associated with General Mills for the past 19 years. Thomas served the Larrowe division of General Mills as advertising manager, assistant sales manager, later as buyer, manager of production, and as executive vice president. January 1, 1946 he went to Minneapolis where he assumed the responsibilities of director of formula feeds and executive administrator of the farm service division.

Fred W. Thomas comes to Central Soya with a broad experience in the feed industry. He has been active in the American Feed Manufacturers Association since 1938 and at their last annual convention the directors of the Feed Association elected Thomas to serve as chairman of their board.

As president of Central Soya Co., Inc., Fred W. Thomas will be the chief executive of a large and fast growing company. Central Soya was incorporated in 1934 and is one of the three largest processors of soybeans in the United States.

IOWA DEADLINE

Deadline for entry in the 1948 Iowa Master Soybean Growers contest is August 31, according to Joe L. Robinson, secretary of the Iowa Corn and Small Grain Growers Association.

Entries in the Iowa contest are through local contests in the various communities. Winner of the state contest will receive $50, the John Sand trophy awarded annually by John Sand, Marcus, Iowa, soybean producer, and the title of Iowa Master Soybean Grower. Second and third prizes are also offered. In addition there will be local and district prizes.

The Iowa contests are sponsored by the Iowa Corn and Small Grain Growers Association and the Iowa Soybean Processors Association in cooperation with sponsors of local contests.

—s b d—

NEW SEEDBURO CATALOG

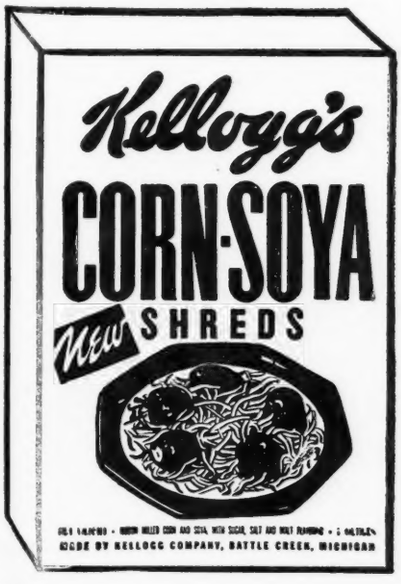
Highlighting its 36 years of service to the grain, seed, feed and allied trades, the Seedburo Equipment Co. has mailed its annual catalog to 40,000 active customers.

As in the past, approved grain and seed testing equipment and procedures are described in detail—making the catalog a valuable source of reference for grain and seedsmen to have on hand at all times.

Copies of the new catalog may be obtained by writing directly to the company at 618 West Jackson Boulevard, Chicago 6, Ill.

—s b d—

NATIONWIDE SALES



Pictured above is the package of the newest cereal of the Kellogg Co., Battle Creek, Mich. Kellogg's Corn-Soya Shreds have had splendid acceptance by consumers throughout the country. Over the past 2 years 15 million samples have been distributed, and the product has sold immediately on its taste. Most daily newspapers are now carrying advertisements on Corn-Soya, which has now achieved national distribution.

Harry A. Bullis, chairman of the board of General Mills, Inc., Minneapolis, has been elected to the Council of the United States Associates.

* * * *

The feed brokerage firm of Burhop & Thomas has been organized at Fort Wayne, Ind., with offices at 627 Gettle Bldg. Principals are W. W. Burhop and George C. Thomas. Burhop has been in the feed brokerage business under the firm name of W. W. Burhop & Co. Thomas was feed sales manager of Hubbard Milling Co., Mankato, Minn.

* * * *

The Warner Brokerage Co., dealing in feed ingredient and allied products, has been formed with offices at 915 Metropolitan Bldg., Minneapolis, Minn. Principals are Earl K. Warner, Oscar M. (George) Kjellander, and Norman F. Hoglund, all formerly associated with Archer-Daniels-Midland Co., Minneapolis.

* * * *

A folder on the Kewanee hydraulic dumper has been issued by Kewanee Machinery & Conveyor Co., Kewanee, Ill. Copies may be obtained by writing to the firm at above address.

* * * *

Spencer Kellogg & Sons, Inc., Buffalo, N. Y., refiners, have awarded the Crosby Construction Co. of Chicago the contract for the construction of a 3-million-dollar building expansion program at Decatur, Ill. Included will be a 500-ton-per-day Blaw-Knox soybean solvent extraction unit, a meal storage building and new meal and oil shipping facilities.

* * * *

J. Roach Sons, Inc., Plainfield, Iowa, feed manufacturers and soybean processors, are building three new grain storage bins of monolithic concrete construction. Capacity of the bins is 70,000 bushels, which will bring the firm's total storage capacity to 180,000 bushels.

* * * *

A fine example of color printing is the recent folder by Victory Mills, Ltd., Toronto, describing the firm and its soybean and linseed and malt products.

* * * *

Twelve U. S. agronomists left New York July 15 for a 3-week tour of Honduras and Guatemala as guests of the United Fruit Co. Included were Dr. F. D. Keim, University of Nebraska; Dr. H. J. Reed, Purdue University; Dr. L. L. Rummell, Ohio State University; and Dr. Robert M. Salter, USDA Bureau of Plant Industry.

* * * *

The Story of Phosphate Rock in Agriculture is an attractively printed and illustrated 20-page booklet recently issued by Ruhm Phosphate & Chemical Co., 8 S. Michigan Ave., Chicago.

* * * *

Edward L. Fox of Foxbilt, Inc., Des Moines, Iowa was elected to membership in the Chicago Board of Trade in July, according to Richard F. Uhlmann, president.

* * * *

George Christianson and Art Torgelson have started a grain commission firm under the name of Central Grain Co., with offices in the Snell Bldg., in Fort Dodge, Iowa. Christianson previously operated a firm under his own name. Torgelson was formerly associated with Lamson Bros. in Fort Dodge.

* * * *

James C. Finlayson has been named controller of the feed and soy division of Pillsbury Mills, Inc., Clinton, Iowa. He succeeds Don H. Hunter, now division vice president. Finlayson joined the company in 1944 as an accountant in Minneapolis.

STALEY TO NORWAY

A. E. STALEY, JR.

A. E. Staley, Jr., 45, whose appointment as head of the Economic Cooperation Administration mission to Norway has been announced by Paul G. Hoffman, ECA administrator, is president and chairman of the board of A. E. Staley Manufacturing Co., Decatur, Ill.

Staley has been president of the Staley Co. since March, 1932 and president and chairman of the board since March, 1941. He began work for the company in 1925. The firm is engaged in corn refining and soybean processing.

Staley is a director of the Wabash Railroad Co. and the Safe Deposit and Trust Co. of Baltimore, where he was born. During the war he was deputy chief of the food branch of the War Production Board.

Ed Scheiter, executive vice president of Staley's, will be the company's chief executive officer during Staley's foreign service.

The interest of General Mills, Inc., in Distillation Products, Inc., Rochester, N. Y., has been bought by Eastman Kodak Co. General Mills and Eastman have jointly owned the firm, a pioneer in the commercial development of molecular distillation used in refining edible and industrial oils.

* * * *

Allis-Chalmers Annual Review—1947 mentions world's first three solvent extraction plants for cottonseed and Arkansas' first soybean solvent plant. All were A-C installations in Arkansas and went into operation in 1947.

* * * *

Two recent catalogs by Jeffrey Manufacturing Co., Columbus 16, Ohio are CATALOG 803, *"Jeffrey Spiral Conveyor," and* CATALOG 805, *"Jeffrey Swing Hammer Shredders."*

* * * *

William Brunkala has been added to the technical staff of the Stearns Magnetic Mfg. Co., Milwaukee. He will serve as an assistant to Harold W. Buss, physicist and research engineer in charge of the Stearns laboratory.

* * * *

Woodbach, Inc., a new feedstuffs brokerage firm, began operations at 518 Corn Exchange, Minneapolis August 1, with George C. Spriestersbach and E. A. Woodard as copartners. Mr. Spriestersbach recently resigned from the Newsome Commission Co. Mr. Woodard is former general manager of the Western Soybean Mills, Sioux Falls, S. D.

* * * *

Frank Hobbs, manager of the Des Moines, Iowa, office of J. I. Case Co. for 14 years, has been promoted to company sales manager with offices at Racine, Wis. He is being succeeded at Des Moines by George A. Holmes, who has been assistant manager of the Kansas City branch.

* * * *

H. V. Nootbaar, owner and manager of H. V. Nootbaar & Co., Pasadena, Calif., was a recent business visitor to Texas and Missouri.

* * * *

Fulton Bag & Cotton Mills, Atlanta, Ga., announces the purchase of the bag business of West Coast Bags, Inc., of Los Angeles, Calif. Jack C. Baldwin, president and manager of West Coast Bags, Inc., will continue as manager of the plant.

* * * *

The Glidden Co. will build a 3-million-dollar soybean extraction plant in Indianapolis, adjacent to the firm's large feed mill. The new plant will consist of several buildings connected by bridges for transfer of material in various stages of processing. It will include a 1,500,000-bushel grain elevator.

* * * *

K. W. Rodemich, for more than 20 years in the engineering department of Ralston Purina Co., has been appointed chief milling engineer for the Essmueller Co., St. Louis, Mo.

* * * *

The Columbus, Ind., airport netted $4,225 last year from the sale of soybeans grown on the field, the city's aviation commission reports.

JOINS BLAW-KNOX

R. E. KISTLER

Chemical plants division of Blaw-Knox Co., has announced the appointment of R. E. Kistler as sales engineer for its fats and oils department.

Mr. Kistler comes from Emery Industries, Inc., where he was works manager in charge of their Ivorydale plant. For 22 years he was with Swift and Co., where he last served as division superintendent in charge of processing of edible shortenings and oils and also industrial oils.

During 1945 he was employed by another division of Blaw-Knox in the engineering of process equipment.

WASHINGTON Digest

By PORTER M. HEDGE

Washington Correspondent for The Soybean Digest

Margarine Tax Repeal

Congress is not expected to pay serious attention to margarine tax repeal legislation during the special session.

Margarine interests want to keep the issue alive—to push repeal through if they have any prospect of success.

But they don't want to become embroiled in a political fight that might damage repeal chances at the regular session next winter.

There is a good-sized majority in the Senate ready to vote for tax repeal now—if the question could be brought to a vote without controversial strings attached such as the civil rights issue.

In short, tax repeal is within the grasp of margarine interests, yet just beyond their reach for this year.

The significance of tax repeal is emphasized by a recent report in the *Fats and Oils Situation* issued by the Bureau of Agricultural Economics. Highlights:

Civilian disappearance of margarine during the first quarter of this year reached a new high as measured by tax-paid withdrawals. The total for January-March came to 235 million pounds, slightly above the rate for the preceding quarter and the highest of any quarter on record.

Since butter production is still relatively low and the price still relatively high, there is a good prospect consumption of margarine for the balance of this year may remain at about the January-March level.

If so, disappearance for this year would come to about 860 million pounds, or the equivalent of about 6 pounds a person.

Margarine production last year reached a new high of 746 million pounds. It compares with 573 million in 1946 and a 1937-41 average of 354 million.

Domestic disappearance last year also scored a new high—715 million pounds against 538 a year earlier and the prewar average of 353 million.

The per capita consumption last year was 5 pounds product weight against 3.8 pounds in 1946 and 2.7 pounds prewar.

About 95 percent of all the fats and oils used in margarine last year were vegetable oils—91 percent of the total cottonseed and soybean.

During the war government allocations of edible oils kept use of soybean oil in margarine at an unusually high level. But since OPA controls were ditched, use of soybean oil in margarine has declined in relation to use of cottonseed.

Last year cottonseed oil made up 53 percent of the total fat used in margarine against an average of 48 percent in 1942-46. Use of soybean oil last year was 37 percent of the total compared with 41 percent during 1942-46. The shift from soybean oil to cottonseed oil in margarine has continued into early 1948.

Coconut oil contributed 3½ percent of the total fats and oils used in margarine last year. About a third of the coconut oil went into export margarine. Animal fats were a minor source of fat for margarine last year, same as the year before.

Last year margarine provided an outlet for 16 percent of the total domestic disappearance of soybean oil; 13 percent for peanut oil; 29 percent for cottonseed oil, and 3 percent for corn oil.

Percentagewise, this is about the same as prewar for soybeans, though the volume was much larger. Here are the figures for the 1937-41 period:

Soybean oil 15 percent, peanut oil 3 percent, cottonseed oil 9 percent, corn oil 1 percent.

Retail outlets for sale of margarine have increased in number at an average of over 20,000 a year since 1941-42. The number of retail stores federally licensed to sell margarine rose from 163,000 in the 1941-42 fiscal year to 271,000 in the 1946-47 year.

During the latter period 266,000 of the total licensed stores were able to sell uncolored margarine only. Only eight states had stores authorized to sell colored margarine in 1941-42, but 26 states had them 5 years later.

During the 5-year period, the percentage of all retail food stores selling margarine climbed from 30 to 45 percent, with one licensed store now for about every 523 persons.

Effect of Big Crops

Record breaking harvests of nearly all major crops this year mark the real beginning of the postwar downturn in farm prices. This is the unanimous view of farm experts in Washington.

The pressure of big crops will influence soybeans, though not as much as a commodity like corn.

Soybean futures are already below $3 at Chicago. However, none of the officials here anticipate that soybeans this year will drop to the support price level.

The loan rate on soybeans this year will be in the neighborhood of $2.19 a bushel. The rate will be based on 90 percent of parity Sept. 15, and this level assumes a slight increase in parity between now and then.

The pressure of the big corn crop is pretty sure to send corn prices skidding on down below the price floor of approximately $1.45 a bushel at the farm.

The big export program will keep wheat prices fairly close to the loan level.

Other grains and feeds will be strongly

influenced by corn. Many of the small grains are now below support levels.

Soybean and cottonseed meal prices are expected to drop off some $15 to $20 a ton below early summer levels; linseed meal about a third that much.

These are unofficial USDA estimates based on the July crop report. The August report, not available at press time, is expected to show production of all grains higher than in July.

The tentative estimate is that this year's oil crops will produce about 6,425,000 tons of oilseed meal. Here is the breakdown:

Soybean meal 4,000,000 tons, cottonseed 2,150,000, linseed 650,000, peanut 75,000, copra 150,000.

With corn "dirt cheap" in relation to livestock prices, the tendency will be to feed less oilseed meals, officials think. The export market for meals also has been slack this summer, with no sure indications yet that it will pick up strongly this fall.

Soybean growers will have a big storage problem this year. USDA estimates that 700 million bushels more storage capacity is needed in the Cornbelt alone this year to handle just six major grains, exclusive of soybeans.

For the country as a whole, the shortage of storage is estimated at 950 million bushels. This is exclusive of the area of the Old South; doesn't count soybeans or flax.

Loan Program

"Purchase agreements" will be offered soybean growers for the first time this year. This is a simplified form of the loan program, in that it offers the same price protection at less cost and without having to take out a loan.

Under a purchase agreement you simply tell the county AAA committee how many beans you want signed up and pay a small fee. You will get price protection the same as under a loan. You can either sell on the market, or deliver to the government at any time within 30 days after regular loans come due.

On delivery, growers are required to pay a service fee, and must deliver beans of a quality acceptable to Commodity Credit Corporation.

For next year's soybean crop the loan rate may—and probably will—be lower than 90 percent of parity.

Under the new farm act which goes into effect next year for some crops, the Secretary of Agriculture has the option of setting price supports between 60 percent of parity and the 1948 support price.

In the case of soybeans, this will fall within an approximate range of about $1.45 and $2.19 a bushel.

The so-called "basic" crops such as corn, wheat and cotton are assured of 90 percent of parity support prices through the 1949 season before the lower rates of the new act take effect.

Market Street

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here.

Rate: 5c per word per issue.
Minimum insertion $1.00.

OUR 24 x 24½ FLAKING Rolls with water cooled rolls and 30 ton capacity are ideal for soybean flaking. Get the facts. Write Ben M. Selby, 925 Montrose Ave., Chicago 13, Ill.

FOR SALE—Anderson Expellers all models, as is or rebuilt for specific materials. Pittock & Associates. Moyland, Penna.

SITUATION WANTED—Accountant, university graduate in business administration, 39, with Internal Revenue 6 years, desires employment with small or medium size soybean processing plant. Conscientious, capable, reliable, and interested in soybean industry. Initial salary secondary to opportunity. Willing to start in plant or office. Write to J. S., c/o Soybean Digest, Hudson, Iowa.

EXPERIENCED field warehouse solicitors. Address Cleveland Storage Co., Inc., Guardian Bldg., Cleveland 14, Ohio.

FOR SALE—Anderson Expeller shafts, YMV and YMV-6 used or rebuilt. Good spare motors for Anderson Expeller, 25 HP rewound to 37 HP. Immediate delivery. Write or call: Central Soya Co., Purchasing Dept., Gibson City, Ill.

AVAILABLE—Soybean processing plant manager. University graduate. Administrative ability backed by 15 years of varied successful grain and grain product experience. XH, care Soybean Digest, Hudson, Iowa.

SITUATIONS VACANT — One Chief Chemical Engineer (required July 1949) and two fully qualified and experienced assistants (required January 1950) each to run one shift of a 150-tons-a-day Allis-Chalmers soybean solvent extraction plant in England. Previous experience in solvent plant essential. Good salaries paid to first class men. Write full particulars to GT, care Soybean Digest, Hudson, Iowa.

NEW STEEL STORAGE TANKS IN STOCK

17—10,000, 11,500, 20,000, 25,000 Gal. Cap. New Welded Horizontal Cylindrical.

8—42,000 and 126,000 Gal. and 410,000 Gal. Vertical Bolted.

L. M. STANHOPE **Rosemont, Penna.**

In The MARKETS

MARKETS PLUNGE FOLLOWING USDA CROP FORECAST

The big news in July's soybean, oil and meal markets was the U. S. Department of Agriculture report forecasting bumper crops.

All three markets broke after the crop report was issued July 9.

Month's trend on all soy products was down, though meal and oil were steady until the July crop report came out. Soybeans and oil rallied during the third week of July. Soybean futures kept company with the grain market and showed a considerable slump. November futures in Chicago dropped 69c between July 1 and 31.

December No. 2 soybeans were quoted at $2.68 July 31; March $2.67.

Bulk soybean oil meal, Decatur basis, lost $10.50 between July 12 and 31.

Soybeans

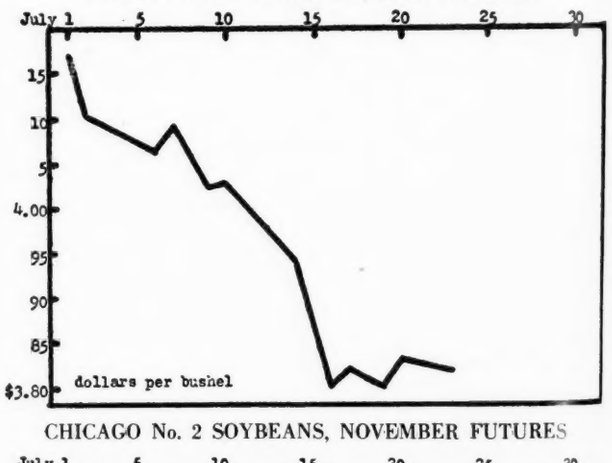
July No. 2 soybeans opened at $4.17, the month's high. Low was $3.80 July 19 and 20, with the last quotation $3.82 July 23. November No. 2 soybeans opened at $3.35, closing at $2.66, low for the month.

There was only light trading in both futures and cash markets.

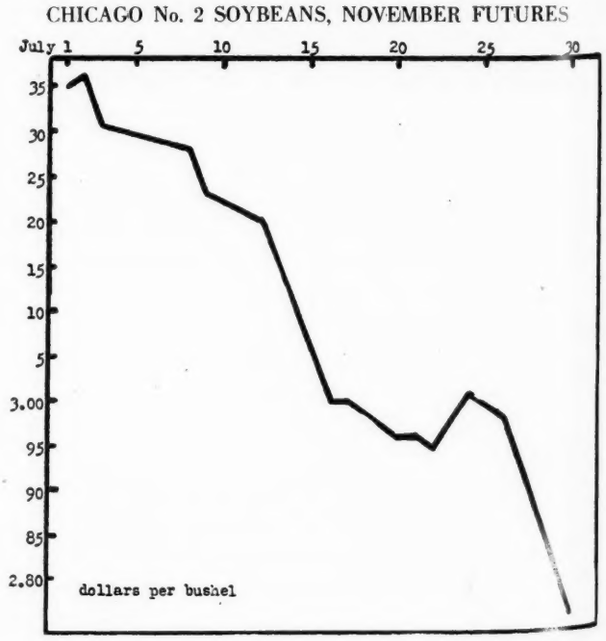
Soybean Oil Meal

Cash bulk soybean oil meal, basis Decatur, opened at $89.50 and closed at $76, low for the month. High was $90.50 July 12.

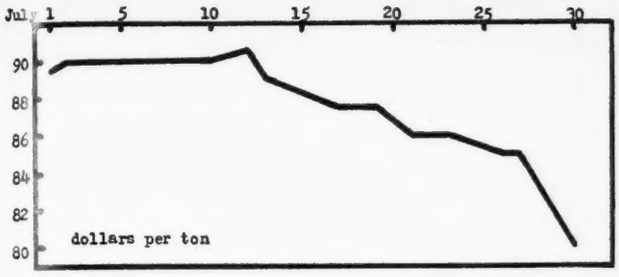
CHICAGO No. 2 SOYBEANS, JULY FUTURES



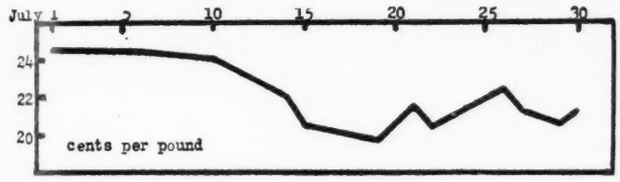
CHICAGO No. 2 SOYBEANS, NOVEMBER FUTURES



BULK SOYBEAN OIL MEAL, DECATUR BASIS



CRUDE SOYBEAN OIL, TANKCARS F.O.B. DECATUR



Soybean oil meal was an exception to the general decline in feeds the first 10 days of July. Offerings were limited and the market was firm. But weakness in whole soybeans, the good crop prospects and slow demand brought on the later decline.

Production was said to be light but ample to care for an easing demand.

Soybean Oil

Crude soybean oil in tankcars, f.o.b. Decatur, opened at 24c, July high, and closed at 21¼c. Low was 19¾c July 19. The abnormal price gap between cottonseed and soybean oils closed up some in July, shrinking from 7½c July 1 to 4¾c July 29 for the crude oils.

Weakness in the soybean oil market July 10-20 was due to light buying interest and a slow demand for shortening and salad oils as well as to the good crop prospects, authorities said.

A better market developed for soybean oil the week of July 19-24 due to improved refinery and industrial demand. One paint manufacturer was reported to be considering changing from castor to soybean oil, according to the *Chicago Journal of Commerce*. But the oil market became unsettled again the last few days in July due to breaks in soybean and lard futures.

NEW YORK SOYBEAN OIL FUTURES JULY 30*

Close: Sept. 22.00A, Oct. 20.75A, Dec. through July 20.00A. No sales. A-asked.

MEMPHIS FUTURES SOYBEAN OIL MEAL CLOSINGS JULY 30*

Oct. flat 59.90, Dec. flat 59.50, Jan. flat 59.40, Mar. flat 59.40, May ask. 59.50. Sales: 3,600 tons.

*reported by Chicago Journal of Commerce.

• VOLUME OF FUTURES TRADING. Volume of futures trading in soybeans totaled 40,162,000 bu. for the fiscal year ending June 30, reports the Commodity Exchange Authority for the U. S. Department of Agriculture. Futures trading in soybeans on the Chicago Board of Trade was resumed in July 1947.

Futures trading in soybean oil on the New York Produce Exchange for the fiscal year ending June 30 was 900,000 lbs. compared with 360,000 lbs. the previous year, CEA reports. Futures trading in cottonseed oil totaled 1,476,900,000 lbs. for the year ending June 30, compared with 94,020,000 lbs. the year before.

Futures trading in soybean oil meal on the Memphis Merchants Exchange totaled 412,200 tons in the year ending June 30. This compares with 153,900 tons for the year previous. Trading in cottonseed meal futures totaled 245,700 tons for the year ending June 30.

Futures markets in agricultural commodities showed a big increase in business during the fiscal year ended June 30.

The volume of futures trading was larger than the previous year

in all but four of the 19 commodities in which trading is conducted. The most substantial increases were in grains, fats and oils and by-product feedstuffs.

Outstanding in fats and oils trading was the lard futures volume, aggregating 2,939,000,000 pounds, which was larger than in any other fiscal year for which records are available. Futures trading on the cottonseed oil market, the New York Produce Exchange, also increased greatly.

On the Memphis exchange, which is the futures market for cottonseed meal and soybean meal, the volume was about 650,000 tons, or more than double the figure for the preceding year.

● STOCKS OF SOYBEANS. Soybean stocks amounting to nearly 32 million bushels were stored in all positions on July 1, 1948, the Bureau of Agricultural Economics reports. These stocks are smaller than on July 1 in any of the 5 preceding years, exceeding only those of July 1, 1942, in the short series beginning on that date.

Included in current stocks were about 23 million bushels at processing plants, as enumerated by the Bureau of the Census, and commercial stocks of about 1¼ million bushels at terminals, reported by the Production and Marketing Administration. The Crop Reporting Board estimated farm stocks at 4¼ million bushels and interior mill and elevator stocks at 3¼ million bushels, both relatively small for those positions. Processor's stocks were near the average level for July 1, but terminal stocks were the smallest for the date since 1942.

About 56.5 million bushels of soybeans disappeared during the April-June quarter, including about 40 million bushels processed for oil and most of the 15.5 million bushels needed for seed, as planting of the 1948 acreage was largely completed before July 1. Disappearance in the April-June quarter of 1947 was 60.7 million bushels of which over 44 million bushels were processed for oil. From the October 1, 1947, supply of nearly 187 million bushels, disappearance is indicated at 155 million bushels, of which nearly 128 million bushels were processed for oil.

STOCKS OF SOYBEANS, JULY 1, 1948, WITH COMPARISONS

Position	July 1 1946	July 1 1947	April 1 1948	July 1 1948
		Thousand Bushels		
On Farms	6,802	6,389	32,647	4,252
Terminals	3,424	2,258	7,613	1,244
Processing Plants	23,356	28,004	36,857	22,913
*Int. mills, elev & whses.	3,526	3,389	11,046	3,256
TOTAL	37,108	40,040	88,163	31,665

*All off-farm storages not otherwise designated.

● COMMERCIAL SOYBEAN STOCK REPORTS. Production and Marketing Administration's commercial grain stock reports for July.

	July 6	July 13	July 20	July 27
Atlantic Coast	9	68	13	14
Northwestern and Upper Lake	87	87	88	58
Lower Lake	698	608	585	473
East Central	79	73	58	72
West Central				
Southwestern & Western	372	355	347	301
Total current week	1,245	1,191	1,091	918
Total year ago	1,954	1,625	1,067	759

● STANDARD SHORTENING SHIPMENTS. Reported by members of Institute of Shortening and Edible Oils, Inc., in pounds.

July 3	3,555,061
July 10	3,501,435
July 17	4,403,020
July 24	4,873,942
July 31	4,576,051

Grand total of shipments of shortening and edible oils for the second quarter of 1948 was 734,835,000 lbs. compared with 693,865,000 lbs. the first quarter, members report.

Shipments of shortening and edible oils to agencies of the federal government and government-controlled corporations totaled 21,613,000 lbs. the second quarter compared with 21,819,000 lbs. the first quarter.